Environmental Impact Statement Preparation Notice Kaloko, North Kona, Hawai'i

Prepared for:

Accepting Authority
State of Hawai'i Land Use Commission
&
North Kona Village, LLC

Prepared by:



April 2007

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#### LIST OF ACRONYMS AND ABBREVIATIONS

ALISH Agricultural Lands of Importance to the State of Hawai'i

CDP Census Designated Place

CZM Hawaii Coastal Zone Management DBA District Boundary Amendment

DBEDT State of Hawai'i Department of Business Economic Development and Tourism

DHHL State of Hawai'i Department of Hawaiian Homelands

DLNR State of Hawai'i Department of Land and Natural Resources

DOH State of Hawai'i Department of Health
DWS County Department of Water Supply
EIS Environmental Impact Statement

EISPN Environmental Impact Statement Preparation Notice

FIRM Flood Insurance Rate Map

HELCO Hawaii Electric Light Company, Inc.

HRS Hawaii Revised Statutes

kV Kilovolt

LUC State Land Use Commission

MG General Industrial mgd Million gallons per day

msl mean sea level

NGPC Notice of General Permit Coverage

NOAA National Oceanic and Atmospheric Administration NPDES National Pollutant Discharge Elimination Systems

NRCS U.S. Department of Agriculture Natural Resources Conservation Services

OEQC Office of Environmental Quality Control

ROW Right-of-Way

SMA Special Management Area
TIAR Traffic Impact Analysis Report

TMK Tax Map Keys

USGS United States Geological Survey WWTP Wastewater Treatment Plan

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#### **OVERVIEW**

'O'oma Beachside Village, a master-planned community in Kaloko, North Kona, Hawai'i, will encompass a mix of land uses, including: 1) a variety of single-family lots; 2) affordable homes; 3) a mauka mixed use village centered around a village green with retail, office, and live-work opportunities; 4) a coastal preserve/open space and shoreline park with a public canoe club hale; 5) a private beach club amidst a smaller makai mixed-use village with restaurants, retail uses and multi-family residences; 6) archaeological preserves; 7) an approximately 10-acre active community park; and 8) several neighborhood parks, totaling four (4) acres (Figure 1). Multi-mode access ways and greenway trails will enable residents to travel throughout the 'O'oma Beachside Village and access the shoreline.

The 302.38-acre 'O'oma Beachside Village site (the Site) is comprised of a:

- 217.566-acre parcel identified by Tax Map Key (3) 7-3-009:004 (Parcel 4);
- 83-acre parcel identified by Tax Map Key (3) 7-3-009:022 (Parcel 22); and
- 1.814-acre portion of the State-owned Right of Way located on by Tax Map Key (3) 7-3-009 (portion of State-Right-of-Way) (State ROW).

The 83 acres of Parcel 44 are within the State Land Use Urban District. The 217.566 acres of Parcel 4 are within the State Land Use Conservation District. The 1.814-acre portion of the State ROW is within the State Land Use Conservation District.

A State Land Use District Boundary Amendment (SLUDBA) is being sought to reclassify approximately 181.169 acres (Petition Area) of the Site from the State Land Use "Conservation" District to the State Land Use "Urban" District. The Petition Area includes approximately 179.355 acres of Parcel 4 and the 1.814-acre portion of the State ROW.

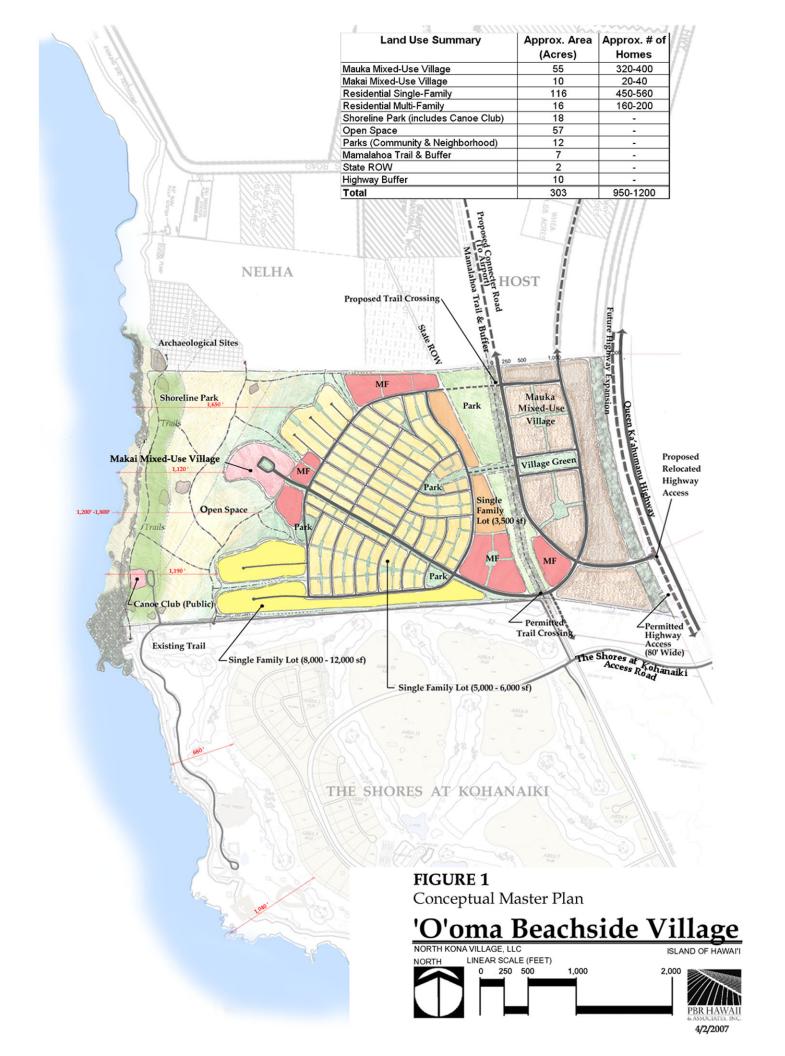
The preparation of an Environmental Impact Statement (EIS) is being undertaken to address requirements of Chapter 343, Hawai'i Revised Statutes (HRS) and Title 11, Department of Health, Chapter 200, Environmental Impact Rules Hawai'i Administrative Rules (HAR). Section 343-5, HRS, establishes nine "triggers" that require compliance with these regulations. The triggers for 'O'oma Beachside Village include, without limitation, the following:

- Reclassification of approximately 181.169 acres from the State Land Use "Conservation" District to the State Land Use "Urban" District;
- Proposed highway intersection improvements on Queen Ka'ahumanu Highway (a State highway facility);
- Crossings of the Māmalahoa Trail located within portions of the State ROW and Parcel 22:
- Possible purchase of the 1.814-acre State ROW;
- Possible development of a wastewater treatment plant; and
- Possible work within the shoreline setback area.

In addition, creation of 'O'oma Beachside Village may involve or impact State and/or County lands or funds relating to infrastructure improvements for public facilities, roadways, water, sewer, utility, drainage, or other facilities. While the specific nature of each improvement is not known at this time, the EIS is intended to address all current and future instances involving the use of State and/or County lands and funds relating to 'O'oma Beachside Village.

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#### **Environmental Impact Statement Preparation Notice**

#### 1.0 SUMMARY

This Environmental Impact Statement Preparation Notice (EISPN) has been prepared in accordance with Chapter 343, Hawaii Revised Statutes (HRS), for the 'O'oma Beachside Village in North Kona, Island of Hawai'i.

Name: 'O'oma Beachside Village

**Location:** Kaloko, North Kona, Hawai'i

**Judicial District:** North Kona

**Applicant/Landowner:** North Kona Village, LLC; State of Hawaii

Recorded Fee Owner: North Kona Village, LLC, formerly known as Clifto's Kona Coast

LLC

**Tax Map Keys**: TMK (3) 7-3-09:04, 22, and (3) 7-3-009: (portion of State ROW)

Land Area: Approximately 302.38 acres

**Existing Use:** Parcels 4 and 22 consist of vacant, open scrub vegetation amidst lava

rock. The portion of the State ROW between Parcels 4 and 22 is vacant, open land with scrub vegetation amidst lava rock, consistent

with the surrounding area.

**Proposed Use:** A pedestrian and bicycle friendly, master-planned beach community

comprised of single-family and multi-family residences, mixed-use villages, a shoreline and several neighborhood parks, and archaeological and open space preserves for protection of historic

sites and anchialine ponds.

**Land Use** 

**Designations:** State Land Use: "Conservation" and "Urban"

General Plan: "Open" and "Urban Expansion"

County Zoning: "O, Open" and "MG-3a, General Industrial"

Special Management Area (SMA): Within the SMA

**Major Approvals** 

**Required:** State Land Use District Boundary Amendment

Change of Zone

Special Management Area Use Permit

Subdivision Approval

Plan Approval NPDES Permit

Grading/Building Permits

**Accepting Authority:** State of Hawai'i Land Use Commission

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#### 1.1 LOCATION

The proposed 'O'oma Beachside Village will be located in Kaloko, North Kona, Hawai'i (Figure 2). The 'O'oma Beachside Village site (the Site), which is approximately 302.38 acres, is currently vacant and undeveloped, consisting of scrub vegetation and lava rock. The Natural Energy Laboratory of Hawai'i Authority (NELHA) and the Hawaii Ocean Science and Technology Park (HOST) borders the Site to the north. Bordering the Site to the south is The Shores at Kohanaiki, a residential golf-course community under development. Queen Ka'ahumanu Highway borders the Site to the east. The Pacific Ocean lies west of the Site.

#### 1.2 LAND OWNERSHIP

North Kona Village, LLC is the recorded fee owner of the parcels identified as TMKs (3) 7-3-009:004 and 022 (Figure 3). The State of Hawaii is the fee owner of the portion of the ROW located between Parcels 4 and 22 within (3) 7-3-009.

#### 1.3 IDENTIFICATION OF THE APPLICANT

The applicant is North Kona Village, LLC.

**Contact:** Mr. Dennis Moresco, CEO

North Kona Village, LLC c/o Midland Pacific Homes 7305 Morro Road, Suite 200 Atascadero, California 93422 Telephone: (805) 466-5100

Fax: (805) 466-5105

#### 1.4 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

North Kona Village, LLC's environmental planning consultant for 'O'oma Beachside Village is PBR HAWAII.

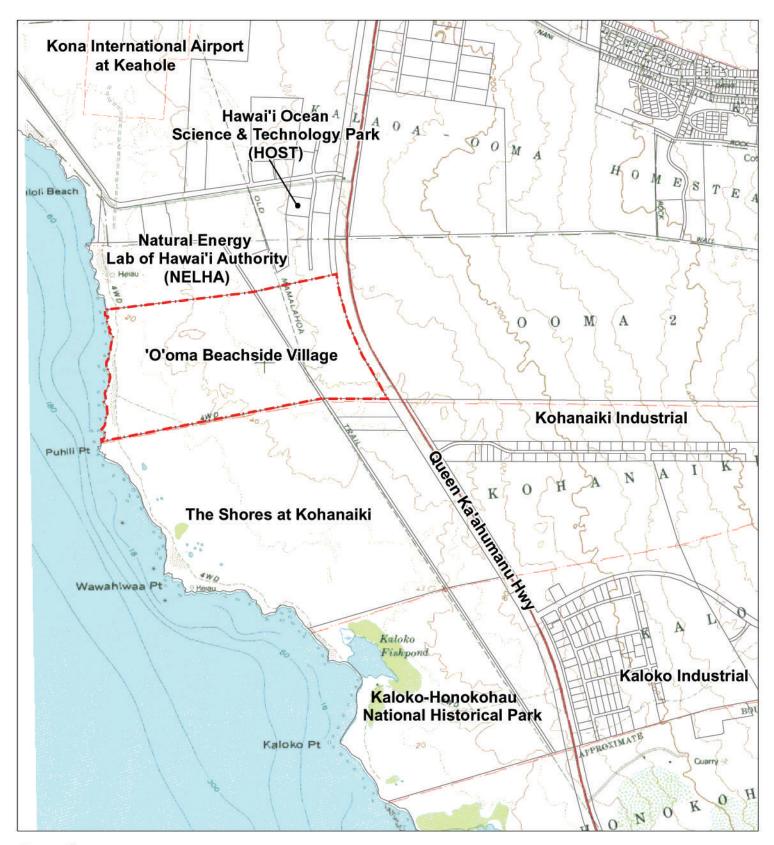
**Contact:** Thomas S. Witten, ASLA

PBR HAWAII 1001 Bishop Street ASB Tower, Suite 650 Honolulu, Hawai'i 96813 Telephone: (808) 521-5631

Fax: (808) 523-1402

#### 1.5 IDENTIFICATION OF ACCEPTING AUTHORITY

In accordance with Chapter 343, HRS, privately initiated EIS documents must be accepted by the government agency empowered to issue a permit or approval for the project. In this instance, the State of Hawai'i Land Use Commission is anticipated to be the accepting authority, since a State Land Use District Boundary Amendment (SLUDBA) is the first discretionary approval being sought for the 'O'oma Beachside Village.

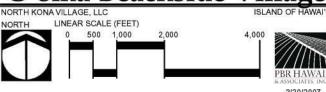


#### Legend

i 'O'oma Beachside Village

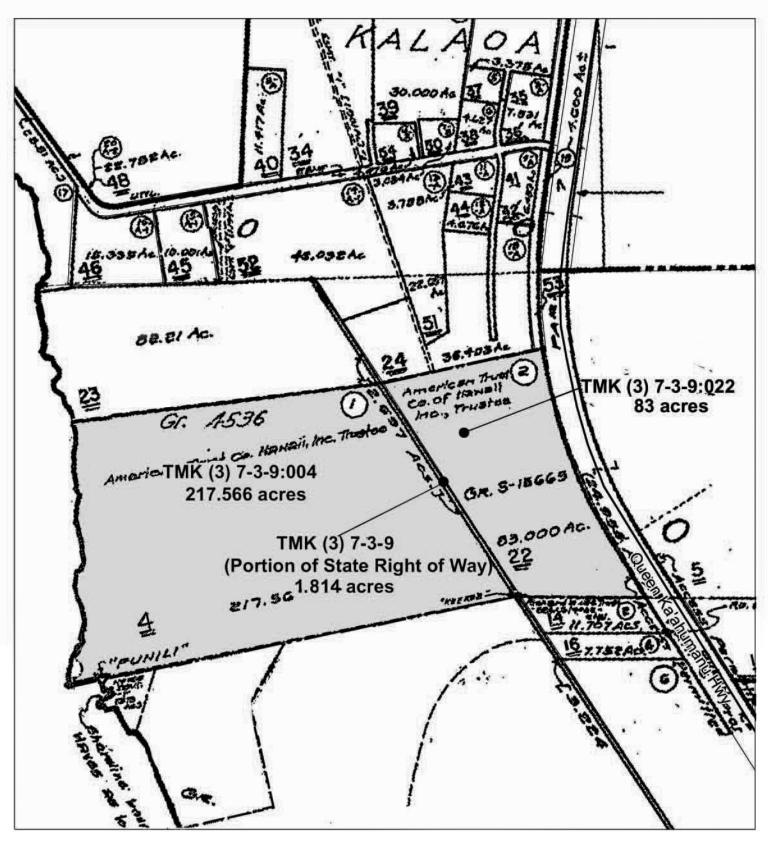
#### FIGURE 2 Regional Location Map

## 'O'oma Beachside Village



Source: U.S. Geological Survey

Disclaimer: This graphic has been prepared for general planning purposes only.



### Legend

'O'oma Beachside Village

# FIGURE 3 Tax Map Key

## 'O'oma Beachside Village

NORTH KONA VILLAGE, LLC

NORTH

LINEAR SCALE (FEET)

0 250 500 1,000 2,000

PBR HAWAI

Source: Tax Map Key County of Hawai'i GIS 2006

Disclaimer: This graphic has been prepared for general planning purposes only.

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**Contact:** Anthony Ching, Executive Officer

State Land Use Commission

Department of Business, Economic Development & Tourism

P.O. Box 2359

Honolulu, Hawai'i 96804-2359 Telephone: (808) 587-3822

Fax: (808) 587-3827

## 1.6 COMPLIANCE WITH STATE OF HAWAI'I AND HAWAI'I COUNTY ENVIRONMENTAL LAWS

The preparation of an Environmental Impact Statement (EIS) is being undertaken to address requirements of Chapter 343, Hawai'i Revised Statutes (HRS) and Title 11, Department of Health, Chapter 200, Environmental Impact Rules Hawai'i Administrative Rules (HAR). Section 343-5, HRS, establishes nine "triggers" that require compliance with these regulations. The triggers for 'O'oma Beachside Village include, without limitation, the following:

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- Possible purchase of the 1.814-acre State ROW;
- Possible development of a wastewater treatment plant; and
- Possible work within the shoreline setback area.

In addition, creation of 'O'oma Beachside Village may involve or impact State and/or County lands or funds relating to infrastructure improvements for public facilities, roadways, water, sewer, utility, drainage, or other facilities. While the specific nature of each improvement is not known at this time, the EIS is intended to address all current and future instances involving the use of State and/or County lands and funds relating to 'O'oma Beachside Village.

#### 1.7 STUDIES TO BE CONDUCTED AND INCLUDED IN THE EIS

A preliminary description of the environment, alternatives considered, potential impacts, and proposed mitigation measures are provided in this EISPN. The information contained in this report has been developed from master planning efforts, site visits, and technical studies of the Site and surrounding area. Consultant reports referenced in this document will be appended to the Draft EIS.

Technical studies to assess the existing natural and physical site conditions and potential impacts to the Site and surrounding area are being prepared and will be included in the Draft EIS. The studies include:

- Botanical Survey;
- Fauna Survey;
- Cultural Impact Assessment;
- Archaeological Inventory Survey;

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- Traffic Impact Assessment;
- Noise Assessment;
- Air Quality Study;
- Marine Water Quality Assessment;
- Ground Water Quality Assessment;
- Market and Economic Assessment; and
- Preliminary Engineering Assessment.

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#### 2.0 'O'OMA BEACHSIDE VILLAGE DESCRIPTION

This section includes background information, a general description of the proposed 'O'oma Beachside Village, the development timeframe, and preliminary development costs.

#### 2.1 LOCATION

'O'oma Beachside Village will be located in Kaloko in the North Kona District, or western portion, of the Island of Hawai'i (Figure 2). Access to the Site will be off of Queen Ka'ahumanu Highway, which borders the Site to the east. Makai and west of the Site is the Pacific Ocean. The NELHA and HOST, consisting of a mix of commercial, public-quasi-public uses and industrial uses, is located north of and adjacent to the Site. South of and adjacent to the Site is The Shores at Kohanaiki, a golf-course community under development, which includes a shoreline park and the Kohanaiki Golf and Ocean Club.

The 302.38-acre 'O'oma Beachside Village site (the Site) is comprised of a:

- 217.566-acre parcel identified by Tax Map Key (3) 7-3-009:004 (Parcel 4);
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#### 2.2 EXISTING USES

A majority of the Site is vacant and undeveloped land amidst lava rock (Figure 4). The area consists of vegetation that includes fountain grass, kiawe trees, noni plants, and maiapilo. The western portion of the Site consists of the shoreline area contiguous to Wawaloli Beach, which is open to the public. There are no streams onsite. Mauka of the coastal vegetation, there is a small area of sedimented anchialine ponds. In the eastern portion of the Site, extending north-south, paralleling Queen Ka'ahumanu Highway is a portion of the historic Māmalahoa Trail. West of the highway, also extending in a north-south direction is a remnant portion of a State ROW, which veers off from the historic Māmalahoa Trail. The ROW, referred to on survey maps as "King's Highway," was meant to be an extension of Māmalahoa Trail but has remained vacant and undeveloped land amidst lava rock, consistent with the surrounding area.

#### 2.3 SURROUNDING USES

The Site is located along the western coast of Hawai'i Island. North of the Site is NELHA, which features a dual-temperature seawater system, and HOST (Figure 2).

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HOST has attracted tenants that are engaged in research, education and commercial activity that support sustainable industry development and make use of the deep seawater resources. Tenants include commercial entities such as Big Island Abalone Corporation, Uwajima Fisheries, Inc., Hawaiian TelCom, Moana Technologies, Inc. and water bottlers authorized to display "100% Hawai'i Deep Seawater" and the NELHA logo on their products, verifying that their water is produced from 100% pure, deep seawater at NELHA on the Kona Coast of Hawai'i. Research organizations at the park include University of California-Santa Cruz, University of Hawai'iInfrasound Laboratory of Hawai'i and The Oceanic Institute. Educational institutions include the West Hawai'i Explorations Academy (Public Charter School), Hawaiian Islands Humpback Whale National Marine Sanctuary, University of Hawai'i-Sea Grant Extension Service (NELHA, 2006). Further north, beyond NELHA and HOST, is the Kona International Airport at Keāhole, which occupies 3,450 acres of land, has an 11,000-foot runway, and facilities that accommodate domestic overseas, international, interisland, commuter/air taxi, and general aviation activities (State Department of Transportation, 2006).

South of the Site is The Shores at Kohanaiki, a 500-home golf course community, under development by Kennedy Wilson and Rutter Development since September 2005. Open space along the shoreline, which includes anchialine ponds, trails and historic sites are proposed to be preserved. Housing will be set back at least 400 feet from the shoreline. There will be a golf course and clubhouse, tennis courts, and workout facilities. A shoreline park is proposed, with parking, an 8,000 square foot (s.f.) beach facility, with snack bar, restrooms and showers (West Hawaii Today, 2003). Further south, approximately 0.5 miles away from the 'O'oma Beachside Village site is the Kaloko-Honokōhau National Historical Park, a 1,160-acre national historical landmark with extensive natural and cultural resources, including archaeological sites, and anchialine ponds. In addition, there are the Kaloko Industrial and Kohanaiki Industrial areas and the Honokōhau Small Boat Harbor.

The Site is bordered to the west by the Pacific Ocean. The coastline is generally rugged, consisting of lava rocks with some sandy beach areas. The shoreline area has tidal pools and is ideal for shoreline and spear fishing. Amenities include a restroom and picnic tables. The Site is bordered to the east by Queen Ka'ahumanu Highway, a two lane State arterial highway facility currently being expanded to a four lane facility in two phases.

#### 2.4 PROPOSED USES

The proposed 'O'oma Beachside Village comprises approximately 302.38 acres, including approximately 83 acres (Parcel 22) that were previously planned and zoned for industrial uses along Queen Ka'ahumanu Highway. Parcel 22 was reclassified to the State Land Use "Urban" District by Commission Decision and Order dated February 6, 1986, in Docket No. A85-592. The Petitioner in that Docket was the State of Hawaii through the Department of Planning and Economic Development.

Concurrent with its Petition for SLUDBA for Parcel 4, North Kona Village, LLC intends to file a Motion to Amend State Land Use Commission Decision and Order for Parcel 22, as North Kona Village, LLC's plans for Parcel 22 are different from the proposed development in Docket No. A85-592. Envisioned as a master-planned beachside residential community with mixed uses, the 'O'oma Beachside Village will be positioned as a primary residential community with a full range of housing opportunities and access to the shoreline (Figure 1).



COASTAL PRESERVE AREA / SHORELINE PARK AREA WITH NELHA FACILITIES BEYOND



VIEW FROM COASTAL BLUFF



SHORELINE AREA



EXISTING SHORELINE TRAIL



ARCHAEOLOGICAL RESOURCES



MAMALAHOA TRAIL



VIEW TOWARDS NELHA/HOST PARKS



EXISTING JEEP ROAD (FROM QUEEN KA'AHUMANU HWY)

# FIGURE 4

# Site Photographs 'O'oma Beachside Village



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With consideration for the preservation of the archaeological, cultural, and coastal resources on the Site, key land use concepts and components for the 'O'oma Beachside Village are as follows:

#### 2.4.1 Residential Community

In total, there will be approximately 950 to 1,200 homes, which will include multi-family units, "live-work" or mixed-use homes, affordable homes, and single-family home lots. There will be a mauka mixed-use village and a makai mixed-use village. Amidst, the villages, there will be "live-work" units for use by sole proprietors and small businesses for business and/or residential purposes. A range of affordable homes will be provided over, or integrated with, retail and/or office uses. Single-family lots, ranging from 3,500 to more than 12,000 square feet, will be located outside of the shoreline setback area. Almost all of the homes will have direct or easy access to pedestrian/bike pathways that will connect to the shoreline and various neighborhoods, parks, and village.

#### 2.4.2 Mauka Mixed-Use Village

The mauka mixed-use village, which is to be located in the area currently zoned "MG-3a, General Industrial," is envisioned to be a walkable, pedestrian-friendly village organized around a village green consisting of multifamily homes, "live-work" units, and affordable homes located over retail or office spaces. There will be a full-range of community support services, including retail and office space to serve residents and businesses and also a commercial area to serve the residents and the communities immediately surrounding the Site. One of the 'O'oma Beachside Village objectives is to reduce the number of trips by vehicle to Kailua-Kona.

#### 2.4.3 Makai Mixed-Use Village

On a bluff overlooking the open space and Shoreline Park, and setback approximately 1,120 feet from the shoreline, a smaller mixed-use village of approximately 10 acres is planned to provide a beach club, restaurants, some retail uses, and residential uses. The makai village area is intended to serve as the "community center" for 'O'oma Beachside Village residents. With pathways to/from the beach park, this village area could also provide food and beverage service to beach users.

#### 2.4.4 Trails, Parks and Open Space

An extensive network of trails and open space are planned to connect the residences to the shoreline, the mixed-use villages, and various neighborhoods that comprise the community. Multi-modal paths are planned.

Integrated with the trails and open spaces are approximately 12 acres of parks that will include an approximately eight acres active community park and several neighborhood parks totaling four (4) acres.

The historic Māmalahoa Trail, which runs north-south through Parcel 22 will be preserved with a landscape buffer. For improved pedestrian and vehicular access, two additional roadway crossings of the Māmalahoa Trail are proposed. These crossings would be designed to minimize impacts to the Māmalahoa Trail and provide a clearly defined visual reference to the trail crossing the roadway.

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The portion of the State ROW, located west of Māmalahoa Trail, which has no physical improvements, is proposed to be included within the Site and may be acquired from the State of Hawai'i.

A two-acre landscape buffer will be maintained along Queen Ka'ahumanu Highway.

#### 2.4.5 Shoreline Park and Open Space

Given the natural topography of the Site and the objective of preservation of archaeological and cultural resources of the area, approximately 75 acres near the shore are planned to be maintained as park and open space, consistent with the land use concept of the *County of Hawai'i General Plan*. Of the 75 acres, there will be approximately 57 acres of open space. Along the shoreline, where there is an existing four-wheel drive road, approximately 18 acres will serve as a shoreline park, an extension of the beach parks planned at The Shores at Kohanaiki and NELHA.

Additional parking areas, envisioned to be accessed via the adjacent shared public access road along the boundary with Kohanaiki, would be provided within the shoreline area at 'O'oma Beachside Village. A canoe hale, located within the shoreline park area, approximately 400 feet away from the shoreline and outside of the shoreline setback area, is proposed to provide storage for canoes and also serve as the "home" for an outrigger canoe club.

Along the shoreline, all improvements are proposed to be set back a minimum of 100 feet.

#### 2.4.6 Archaeological and Cultural Preserves

Preservation of significant archaeological and cultural sites has been considered throughout 'O'oma Beachside Village planning. Archaeological and cultural sites will be maintained with buffers. Where there are known burial sites, these sites will be buffered from adjacent uses. The natural landforms along the coastline and bluff overlooking the shoreline will be preserved intact.

#### 2.4.7 Infrastructure Improvements

Several wastewater treatment facilities are located in proximity to the 'O'oma Beachside Village site at Keauhou, Kealakehe, and the Kona International Airport at Keāhole; however, these facilities have limited capacity, some of which has been reserved for future development. Given the limited resources, North Kona Village, LLC is exploring: 1) coordination with other landowners regarding the use of offsite treatment facilities, if available; 2) joint development of an offsite treatment facility; or 3) possible development of an onsite wastewater treatment plant. If North Kona Village, LLC opts to develop a wastewater treatment plant onsite, design and construction will be in accordance with State Department of Health and County of Hawai'i standards and treated water would be reused for irrigation.

#### 2.4.8 Connected Community

Although primary access to 'O'oma Beachside Village is permitted from Queen Ka'ahumanu Highway, near the southern boundary of the Site, coordination will be undertaken on development of a single highway intersection with The Shores at Kohanaiki and planning for a connector road to NELHA and HOST to the north. In addition, it will be desirable to have a

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connector road to NELHA that would also access the Kona International Aiport at Keāhole. North Kona Village, LLC will continue to coordinate with the State DOT and surrounding land owners on roadway access and connectivity to adjacent lands.

#### 2.4.9 Land Use Summary

Although the land use plan is still conceptual, an estimated breakdown of uses and an estimated range of homes are provided in the following table:

**Land Use Type Estimated Area (acres) Estimated Homes** Mauka Mixed-Use Village 55 320-400 Makai Mixed-Use Village 10 20-40 Residential Single-Family 116 450-560 Residential Multi-Family 16 160-200 Shoreline Park 18 57 Open Space Parks (Community & Neighborhood) 12 Māmalahoa Trail and Buffer 7 \_ State ROW 2 10 Highway Buffer **TOTAL** 303 950-1200

**Table 1: Land Use Summary** 

#### 2.5 'O'OMA BEACHSIDE VILLAGE NEED

The Keāhole to Kailua Development Plan (1991), passed by Resolution Number 296-91, is an implementing tool for the Hawai'i County General Plan. The Keāhole to Kailua Development Plan was supported by the Hawai'i County Council to serve as a guide for development of infrastructure and land uses of the Keāhole to Kailua area, with recognition of the area for major future urban growth. In the County of Hawai'i General Plan (2005), the 'O'oma Beachside Village site is also designated for "Urban Expansion," with "Open Space" along the shoreline. The County is currently in the process of preparing the Kona Community Development Plan to further identify how the General Plan can be implemented to achieve the communities' vision for the region.

A market/economic assessment and findings will be included in the Draft EIS, and a copy of the complete study will be attached as an appendix. The proposed community will provide a variety of housing options and opportunities for Island residents, which will help fulfill the primary residential needs of the region, and also enable local residents to benefit from an improved quality of life associated with residing in the shoreline community.

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#### 2.6 DEVELOPMENT TIMETABLE AND PRELIMINARY COSTS

#### 2.6.1 Proposed Phasing Plan

Development of the master-planned community will generally occur within three phases and is anticipated to begin as soon as all entitlement and permitting approvals have been received. North Kona Village, LLC hopes to begin construction as early as 2010, with full build-out anticipated within 10 years of anticipated Commission approval. Phasing details will be discussed in the Draft EIS.

#### 2.6.2 Cost Estimates

The estimated cost of subdivision and related improvements will be discussed in the Draft EIS. North Kona Village, LLC has yet to determine preliminary sale terms and prices, contingent upon findings of the market and economic assessment being prepared and to be included in the Draft EIS.

#### 2.7 SUSTAINABLE BUILDING DESIGN

The Office of Environmental Quality Control (OEQC) issued "Guidelines for Sustainable Building Design in Hawai'i: A Planner's Checklist" (OEQC May 1999) and has requested that consideration be made in applying sustainable building techniques to projects. The OEQC Guidelines state, "[a] sustainable building is built to minimize energy use, expense, waste and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai'i's residents and visitors today without compromising the needs of future generations."

Where appropriate, North Kona Village, LLC will utilize techniques described in the "Guidelines for Sustainable Building Design in Hawai'i" in the creation of 'O'oma Beachside Village.

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# 3.0 DESCRIPTION OF THE AFFECTED NATURAL ENVIRONMENT, POTENTIAL IMPACTS OF THE PROPOSED ACTION, AND MITIGATION MEASURES

This section describes the existing conditions of the physical or natural environment, potential impacts of the 'O'oma Beachside Village on the environment, and mitigation measures to minimize any impacts.

#### 3.1 CLIMATE

#### **Existing Conditions**

The climate of Hawai'i Island is influenced by its geologic features. The Island is dominated by Mauna Loa (13,653 foot summit elevation) and Mauna Kea (13,796 foot summit elevation). The annual rainfall in the region is approximately 25 inches, with mauka areas typically experiencing greater rain than in makai areas. Regional temperatures range from the low 70 degrees Fahrenheit to high 70 degrees Fahrenheit (Hawai'i County Data Book, 2005). Humidity ranges throughout the year between 68 percent in the morning to 80 percent in the afternoon (NOAA, 2005).

Trade winds are typical of the Hawaiian Islands, blowing predominantly in a northeast direction. Winds average approximately seven miles per hour (mph) (NOAA, 2005). The local mountains, namely Hualālai and Mauna Loa volcanoes, further influence the wind pattern for Hawai'i Island. In the early morning, the prevailing wind pushes out toward the ocean, and in the afternoon, the winds blow from the ocean toward the island (Juvik, 1998).

#### Potential Impacts and Mitigation Measures

The proposed 'O'oma Beachside Village is not expected to have an impact on climatic conditions and no mitigation measures are planned.

#### 3.2 GEOLOGY AND TOPOGRAPHY

#### **Existing Conditions**

'O'oma Beachside Village will be located on the flank of Hualālai, the third oldest shield volcano on the Island of Hawai'i. Hualalai has an area of approximately 290 square miles, accounting for 7.2 percent of the island. The summit is located 8,271 feet above mean sea level (msl) and approximately 15 km away from Kailua-Kona (USGS, 1996). Three rifts of Hualālai radiate to the north, south, and northwest. The volcano is characterized by a well-developed northwest rift zone, a moderately well-developed south-southeast rift zone and a poorly developed north rift zone (Hawai'i Center for Volcanology, 2004).

Hualālai grew above sea level more than 300,000 years ago (USGS, 1996). The lava is no longer exposed on the subaerial surface, but has been dredged from submarine portions of the northwest rift zone (Hawai'i Center for Volcanology, 2004). Post-shield volcanism began 100,000 years ago and covered the entire surface of the volcano (Oregon State University Department of Geosciences, 2006). Hualālai is comprised of alkalic lavas erupted during the post-shield stage

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of volcanism, with the surface consisting mostly of alkali olivine basalts, but limited quantities of Trachyte are also present.

In the past 5,000 years, 80 percent of Hualālai's surface has been covered by lava flows; however, earthquake activity beneath the volcano has been low (USGS, 1996). Hualālai erupted last in 1800-1801 from its northwest rift zone, sending two large flows, known as the Ka'ūpūlehu flow, of 'a'ā lava, which is several meters thick and covered in spiny rubble splintered from the flow itself so that it has a surface broken into rough, angular fragments, to the ocean on the west coast of the island (Hawai'i Center for Volcanology, 2004). The eruption brought quantities of xenoliths or foreign rock up from the mantle source that originally produced the lava. The Kona International Airport at Keāhole, located only 11 km north of Kailua, Kona, is built atop the larger flow.

Hualālai is still considered an active volcano, but there has been no magma-related seismicity or ground deformation, making it difficult to predict the next eruption. In 1929, there were a series of earthquakes occurring for about a month, which was attributed to magma intrusion near the surface. However, there was no surface eruption (Hawai'i Center for Volcanology, 2004).

The 'O'oma Beachside Village site slopes in an east to west (mauka to makai) direction, with a slope of approximately two percent. The mauka extent will be located at an elevation of approximately 105 feet above mean sea level (msl) and the makai extent will be located at an elevation of approximately 10 feet above msl.

Although Hualālai is still considered an active volcano, mapping and dating studies indicate that eruptions have been separated by centuries of inactivity (Hawai'i Center for Volcanology, 2004). Since 1971, a seismic station has been maintained about three km east of the summit by the Hawaiian Volcano Observatory to monitor the volcano for signs of activity. Since its inception, there have been no micro earthquake swarms or harmonic tremors indicative of magma movement. Hualālai experiences earthquakes, registered to have a 4.0 magnitude, which stem from a deep source off the coast of the northwest rift zone and is not related to magma movement (Hawai'i Center for Volcanology, 2004).

#### Potential Impacts and Mitigation Measures

Grading will be necessary to accommodate the 'O'oma Beachside Village. Appropriate engineering, design and construction measures will be undertaken to minimize potential erosion of soils during construction. All ground-altering activity will be conducted in accordance with Chapter 10 of the Hawai'i County Code, relating to erosion and sedimentation control. Grading plans will attempt to balance excavation and embankment quantities to the extent practicable. Adverse impact to topography and landforms, attributable to grading activity, is not anticipated.

#### 3.3 SOILS

There are three soil suitability studies prepared for lands in Hawai'i whose principal focus has been to describe the physical attributes of land and the relative productivity of different land types for agricultural production; these are: 1) the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey; 2) the University of Hawai'i Land Study Bureau (LSB) Detailed Land Classification; and 3) the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH).

#### **Existing Conditions**

#### 3.3.1 NRCS Soil Survey

The NRCS Soil Survey shows that the 'O'oma Beachside Village site contains soil from the lava flows association, which is characterized as gently sloping to excessively drained soils that are coarse-textured and medium-textured formed in volcanic ash, pumice and cinders (Figure 5). The soil is found on nearly barren lava flows and upland areas at elevations ranging from near sea level to 13,000 feet. More specifically, most of Parcel 4 consists of pāhoehoe lava flow (rLW), a small portion of Parcel 4, located at the southwestern corner, near the beach, consists of 'a'ā lava flow (rLV) and the western boundary of the Site consists of beaches (BH). Parcel 22 is primarily located on pāhoehoe lava flow. A small portion at the northeast corner is located on 'a'ā lava rock. The State ROW is located on pāhoehoe lava flow. Descriptions of the soil classifications are as follows:

<u>Lava Flows</u>, <u>pāhoehoe</u> (<u>rLW</u>) - This soil has a billowy, glassy surface that is relatively smooth. In some areas, the surface is rough and broken and there are hummocks and pressure domes. The soil has no cover and is typically bare of vegetation, except for mosses and lichens. Some flat slabs are used as facings on buildings and fireplaces.

The NRCS Land Capability Grouping, rates soil types according to eight levels, ranging from the highest classification level, I, to the lowest level, VIII. The capability classification, an indicator of suitability of soil for field crop cultivation, for this soil is VIIIs, non-irrigated, meaning the soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife or water supply or aesthetic purposes. The subclass is "s," meaning the soil is limited because it is shallow, droughty or stony.

<u>Lava Flows, 'a'ā (rLV)</u> – This soil is rough and broken, consisting of a mass of clinkery, hard, glassy, sharp pieces piled in tumbled heaps. There is practically no soil covering and it is typically bare of vegetation, except for mosses, lichens, ferns and a few small 'ōhi'a trees. The capability classification is VIIIs, non-irrigated. Class VIII soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife or water supply or aesthetic purposes. The subclass is "s," meaning the soil is limited because it is shallow, droughty or stony.

**Beaches (BH)** – These are long, narrow, sloping areas of sand and gravel along the coastline, typically used for recreation. The sand and gravel vary in color, ranging from yellowish or white sand, formed in coral and sea shells, black sand, formed in lava rocks and green sand formed in olivine. The capability classification is VIIIw, non-irrigated. Class VIII soils and landforms have limitations that preclude its use for commercial plants and restrict their use to recreation, wildlife or water supply or aesthetic purposes. The subclass is "w," meaning that water in or on the soil interferes with plant growth or cultivation and in some instances the wetness can be corrected by artificial drainage.

#### 3.3.2 Land Study Bureau Detailed Land Classification

The University of Hawai'i Land Study Bureau (LSB) document titled *Detailed Land Classification*, *Island of Hawai'i* classifies non-urban land by a five-class productivity rating

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system, using the letters A, B, C, D and E, where "A" represents the highest class of productivity and "E" the lowest. The LSB rating for Parcel 4 is "E" (Figure 6). The soil on Parcel 22 and the State ROW is unclassified.

#### 3.3.3 Agricultural Lands of Importance to the State of Hawai'i

The State of Hawai'i Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH) system rates agricultural land as "Prime," "Unique" or "Other" lands. The remaining land is not classified.

"Prime" agricultural land is best suited for production of food, feed, forage and fiber crops. The land has the soil quality, growing season and moisture supply necessary to economically sustain high yields of crops when treated and managed including water management, according to modern farming methods.

"Unique" agricultural land can be used for specific high-value food crops. The land has a special combination of soil quality, growing season, temperature, humidity, sunlight, air drainage, elevations, aspect, moisture supply, or other conditions that favor the production of a specific crop of high quality and/or high yield when the land is treated and managed according to modern farm methods.

"Other" agricultural land is vital to production of food, feed, fiber and forage crops, yet they exhibit properties, such as seasonal wetness, erosion, and limited rooting zone, slope, flooding, or drought. The land can be farmed satisfactorily through greater fertilization and other soil amendment, drainage improvement, erosion control practices, flood protection and produce fair to good crop yields when properly managed.

According to the ALISH system, Parcels 4 and 22 and the State ROW are not classified and are therefore, not considered important agricultural land (Figure 7).

#### Potential Impacts and Mitigation Measures

Impacts to the soils of the Site include the potential for soil erosion and the generation of dust during construction. Development of the proposed 'O'oma Beachside Village will involve land-disturbance, including removal of existing vegetation (clearing and grubbing) and mass grading.

Grading plans will attempt to achieve a balanced excavation and embankment quantities to minimize disturbance to the site's topography and soils as much as practicable. As typically required for projects on land greater than one acre in size, a National Pollutant Discharge Elimination System (NPDES) Notice of General Permit Coverage (NGPC) for Storm Water Associated with Construction Activity will be necessary.

During site grading and all other construction activities involving soil disturbance, Best Management Practices (BMPs), which may include use of silt fences, sediment traps and diversion swales, will be utilized to minimize erosion of soil and the discharge of other pollutants, associated with development. After construction, landscaping will provide long-term erosion control.



### Legend

'O'oma Beachside Village

#### Soil Survey

Beaches

Lava Flows: a'a

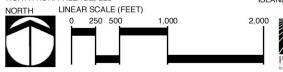
Lava Flows: pahoehoe

Punalu'u Extremely Rocky Peat, 6-20% Slopes

Source: US Dept. of Agriculture National Resources Conservation Services, 1995 Disclaimer: This graphic has been prepared for general planning purposes only.

# **FIGURE 5**Soil Survey

# O'oma Beachside Village NORTH KONA VILLAGE, LLC NORTH LINEAR SCALE (FEET) SEAND OF HAWAI'I



3/20/2007



Legend

'O'oma Beachside Village

#### **Land Classification**

Type E: Very Poor

Not Classified

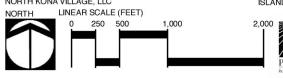
Source: Land Study Bureau 1967

Disclaimer: This graphic has been prepared for general planning purposes only.

#### FIGURE 6

Land Study Bureau Land Classification

# 'O'oma Beachside Village NORTH KONA VILLAGE, LLC NORTH LINEAR SCALE (FEET) SLAND OF HAWAI'I



3/20/2007



### Legend

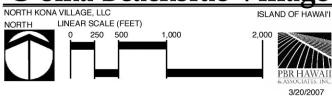
'O'oma Beachside Village

Unclassified

#### FIGURE 7

Agricultural Lands of Importance to the State of Hawai'i (ALISH)

## 'O'oma Beachside Village



Source: U.S. State Dept. of Agriculture 1977 Disclaimer: This graphic has been prepared for general planning purposes only.

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Because the soils at the Site are not well suited for agricultural cultivation or production, or considered to be lands of agricultural importance to the State, the proposed 'O'oma Beachside Village is not expected to impact the availability of agricultural land.

#### 3.4 NATURAL HAZARDS

The Hawaiian Islands are susceptible to potential natural hazards, such as flooding, tsunami inundation, hurricanes, volcanic eruptions, and earthquakes. This section provides an analysis of site vulnerability to such hazards.

#### **Existing Conditions**

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, a majority of Parcel 4 is located outside of the 500-year flood plain, in an area of minimal flooding (Zone X) (Figure 8). Only a small portion of Parcel 4 is located within the 100-year flood plain (Zone A). Parcel 22 and the State ROW are located outside of the 500-year flood plain, in an area of minimal flooding (Zone X).

Since the early 1800s, approximately 50 tsunamis were reported in Hawai'i. Seven (7) caused major damage and two (2) were generated locally. Part of Parcel 4, located along the shoreline, falls within a tsunami evacuation zone designated by the Hawai'i County Civil Defense Agency. However, the Site is located near an identified evacuation route, Natural Energy Road and Queen Ka'ahumanu Highway. The remainder of Parcel 4, Parcel 22 and the State ROW are located outside of the tsunami inundation area.

Since 1980, two hurricanes have had a devastating effect on Hawai'i. They were Hurricane 'Iwa in 1982 and Hurricane 'Iniki in 1992. While it is difficult to predict such natural occurrences, it is reasonable to assume that future incidents are likely, given historical events.

The volcanic hazard zone map for Hawai'i Island divides the island into zones ranked from one (1) through nine (9) (with one (1) being the area of greatest hazard and nine (9) being the area of least hazard) based on probability of coverage by lava flows. According to this map, the 'O'oma Beachside Village site is within Zone 4, which includes all of Hualālai, where about five (5) percent has been covered with lava since 1800 and less than 15 percent has been covered by lava in the last 750 years. Flows typically cover large areas but the frequency of eruptions is lower than other volcanoes, such as Kīlauea and Mauna Loa (USGS, 1997).

In Hawai'i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawai'i, the vast majority of which are so small they are detectable only with highly sensitive instruments. However, moderate and disastrous earthquakes have rocked the islands.

In 1929, an earthquake with an epicenter in Hualālai, with a magnitude of 6.5 resulted in extensive damage to the Kona area. A recent series of earthquakes, with magnitudes of 6.7 and 6.0, occurred at Kīholo Bay on October 15, 2006. The earthquakes resulted in more than \$100 million in damages to the northwest area of the island.

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#### Potential Impacts and Mitigation Measures

The proposed 'O'oma Beachside Village will not exacerbate any natural hazard conditions. No habitable structures will be built within the 100-year floodplain (Zone A). Impact from tsunamis will be mitigated through compliance with Civil Defense tsunami evacuation procedures. Should there be a hurricane, the potential impact of destructive winds and torrential rainfall will be mitigated through compliance with the Uniform Building Code. All structures will be constructed in consideration of the possibility of earthquake occurrence, in compliance with requirements of the Hawai'i County Building Code.

#### 3.5 FLORA

#### **Existing Conditions**

Geometrician Associates, LLC conducted a botanical survey for the 'O'oma Beachside Village site. The Draft EIS will include the entire study as an appendix. The study considered the site in two separate regions, strand and upland, separated by the inland extent of wave-washed coral chunks and sand.

The strand area, consisting of sandy soil and groundwater, contained cover that varied, from blankets of herbs and grasses to few forests or parkland. The area contained an abundance of other grasses, most commonly Bermuda grass (*Cynodon dactylon*). Large quantities of shrubs and herbs were present. Shrubs consisted primarily of the native *naupaka*, somewhat rare native *pilo*, and the aliens *noni* (*Morinda citrifolia*) and klu (*Acacia farnesiana*). In a few widely scattered locations, *Pluchea symphitifolia* were plentiful. Great quantities of native and alien herbs were present, including heliotrope trees (*Tournefortia argentea*) and chenopodes. Commonly found herbs included the 'ilima (*Sida fallax*) and 'uhaloa (*Waltheria indica*), with weedy composites, spurges, and portulacas. Scattered amidst the lava were unusual native species, including the Polynesian-introduced herb 'auhuhu (*Tephrosia purpurea*). In cave overhangs, there were *Plectranthus parviflorus*. Coconuts (*Cocos nucifera*) and the native *kou* tree (*Cordia subcordata*) were present. Other common alien trees included Christmas berry (*Schinus terebinthifolius*), *kiawe* (*Prosopis pallida*), and *koa haole*. Vines were also found and included the natives *pa'u o hi'iaka* (*Jacquemontia ovalifolia*) and *pōhuehue* (*Ipoemoea pescaprae*), as well as the alien ivy gourd vine (*Coccinea grandis*).

The upland area, consisting of lava rock substrate, has sparse to nearly continuous vegetation comprised primarily of scattered bunch grasses, specifically fountain grass (*Pennisetum setaceum*), *pili* grass (*Heteropogon contortus*) and Natal red-top grass (*Rhynchelytrum repens*). Low shrubs and herbs were also identified. Shrubs consisted primarily of somewhat rare native *pilo*, and the aliens *noni* (*Morinda citrifolia*) and klu (*Acacia farnesiana*). *Pluchea symphitifolia* were plentiful in a few, widely scattered locations. Herbs commonly found were 'ilima and 'uhaloa (Waltheria indica), with weedy composites, spurges, and portulacas. Unusual native species scattered on the lava included the Polynesian-introduced herb 'auhuhu (*Tephrosia purpurea*). *Plectranthus parviflorus* were present in cave underhangs. There were a few widely scattered trees. The alien tree *koa haole* (*Leucaena leucocephala*) was plentiful in a few locations. Also scattered amidst the lava was the native tree *naio* (*Myoporum sandwicense*). Other native species present included the ferns *Doryopteris decora*, ally *moa* (*Psilotum nudum*) and *N. exaltata subsp. Hawaiiensis*, which was present in scarce quantities. The alien fern, *Nephrolepis multiflora*, was present through cracks.



Legend

'O'oma Beachside Village

#### Flood Hazards

Zone A: 100 Year Floodplain

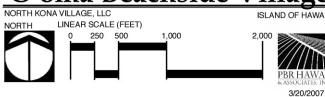
Zone X: Outside Floodplain/Minimal Flooding Area

#### Source: FEMA Flood Insurance Rate Maps State of Hawai'i 2006 Disclaimer: This graphic has been prepared for general planning purposes only.

#### FIGURE 8

Flood Insurance Rate Map

# D'oma Beachside Village TH KONA VILLAGE, LLC ISLAND OF HAWAIT



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No threatened or endangered species were identified; however, pilo (*Capparis sandwichiana*), listed as a rare plant by the U.S. Fish and Wildlife Service, was commonly found in the mauka portion of the Site.

#### Potential Impacts and Mitigation Measures

The proposed 'O'oma Beachside Village is not expected to impact any endangered or threatened plant species. The Botanical Survey recommended that consideration be given to preservation of some areas with dense concentrations of *pilo*. According to the U.S. Fish & Wildlife Service (USFWS), these plants are considered rare. They are also important for traditional Hawaiian medicine.

Although some areas will remain intact for preservation, creation of the master-planned community will require removal of some existing scrub vegetation. To the extent practicable, other trees and plants may be relocated to other areas. Trees and plants that cannot be replanted will be chipped and recycled at the green waste recycling center.

The 'O'oma Beachside Village will include new landscaping appropriate to the setting. Where feasible, new landscaping will include native and indigenous plants and drought tolerant hardy plants and grasses to minimize the need for irrigation.

#### 3.6 FAUNA

#### **Existing Conditions**

Philip L. Bruner prepared an avifauna and feral mammal survey for the 'O'oma Beachside Village site in November 2006. The Draft EIS will contain the complete survey as an appendix. The survey focused primarily on the coastal habitat, which was covered with native and alien trees and brush. An area of silted anchialine ponds mauka of the coastal vegetation was noted.

Only two feral mammal species, the Small Indian Mongoose (*Herpestes auropunctatus*) and the feral cat (*Felis catus*), were observed. Seven mongooses were observed along the coastal section and cat tracks were found along the coastal beach road. Although feral goats (*Capra hircus*) have been spotted on occasion along the 'O'oma and Kohanaiki coast, none were observed.

Five (5) species of avifauna were observed. They included four species of common migratory birds, the Pacific Golden-Plover or Kōlea (*Pluvialis fulva*), Wandering Tattler or 'Ūlili (*Heteroscelus incanus*), Ruddy Turnstone or 'Akekeke (*Arenaria interpres*) and Sanderling or Hunakai (*Calidris alba*). There was also one new alien species, the House Finch (*Carpodacus mexicanus*).

#### Potential Impacts and Mitigation Measures

The proposed 'O'oma Beachside Village is not expected to impact any rare, endangered or threatened species as none were found within the site. The 'O'oma Beachside Village is not expected to have an impact on significant habitats, as the anchialine area was deemed too small and overgrown with vegetation to be of use to migratory shorebirds or water birds (Bruner, 2006). No mitigation was suggested. The avifauna and feral mammal study will be included in the Draft EIS.

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# 4.0 ASSESSMENT OF EXISTING HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, potential impacts of the proposed 'O'oma Beachside Village on it, and mitigation measures to minimize any impacts.

#### 4.1 ARCHAEOLOGICAL AND HISTORIC RESOURCES

#### **Existing Conditions**

Rechtman Consulting is conducting an archaeological inventory survey of the 'O'oma Beachside Village site. The objective of the inventory survey will be to determine the presence/absence, nature, extent and significance of resources in the Site. The scope of work for this investigation will include evaluation, documentation, recordation and, where necessary, limited subsurface testing of recorded sites, as required by the State Department of Land and Natural Resources' State Historic Preservation Division.

#### Potential Impacts and Mitigation Measures

The Draft EIS will contain results of the survey and the complete study will be included as an appendix. Appropriate mitigations measures will be implemented based on the results of the survey. North Kona Village, LLC will comply with all state and county laws and rules regarding the preservation of archaeological and historic sites. Should historic remains, such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work will cease in the immediate vicinity of the find and the State Historic Preservation Division will be contacted for appropriate mitigation, if necessary.

#### 4.2 CULTURAL RESOURCES

#### **Existing Conditions**

Rechtman Consulting is conducting a cultural impact assessment to identify traditional customary practices associated with the 'O'oma Beachside Village site. The cultural assessment will include archival research and interviews from people knowledgeable of the area to obtain information relating to practices and beliefs of indigenous Hawaiians within and surrounding the subject area. Such practices may include access-driven subsistence, agricultural, recreational, healing and burial practices, and religious or spiritual traditions.

#### Potential Impacts and Mitigation Measures

The Draft EIS will contain results of the cultural assessment and the complete study will be included as an appendix. Appropriate mitigation measures will be implemented based on the assessment.

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#### 4.3 NOISE

#### **Existing Conditions**

Sources of noise in the vicinity of the 'O'oma Beachside Village area stem from:

- Aircraft flying to/from the Kona International Aiport at Keāhole;
- Operations at Keāhole Power Plant located mauka of Queen Ka'ahumanu Highway:
- Traffic traveling along Queen Ka'ahumanu Highway and other surrounding roads;
- Construction at The Shores at Kohanaiki, Wawaloli Beach;
- Operations at NELHA; and
- Natural sources, such as wind, rain and the ocean.

Y. Ebisu & Associates is preparing a noise assessment study for the 'O'oma Beachside Village site. The Draft EIS will contain conclusions from the study and the complete assessment will be included as an appendix.

#### Potential Impacts and Mitigation Measures

As previously mentioned, results of the noise assessment study, potential impacts and proposed mitigation will be discussed in the Draft EIS. As a result of findings of the noise assessment study, further refinement of the land use plan may be necessary.

During the construction phase, there will likely be noise impacts associated with operation of heavy construction machinery, paving equipment and material transport vehicles. However, the impact will only be temporary. To mitigate noise levels, North Kona Village, LLC will work with the contractor to ensure adherence with State DOH regulations, use of proper equipment and regular vehicle maintenance. Equipment mufflers or other noise attenuating equipment may also be employed as required. All construction activities will be limited to daylight work hours.

#### 4.4 AIR QUALITY

#### **Existing Conditions**

Regional and local climate, together with the amount and type of activity generally dictate the air quality of a given location. In the vicinity of the 'O'oma Beachside Village site, winds are predominantly trade winds. During winter, storms may generate strong winds from the south (Kona winds) for brief periods. When the trade winds or Kona winds are weak or absent, landbreeze-seabreeze circulations may develop.

Generally, air quality in the vicinity is good and meets State and Federal Air Quality Standards. There are no point sources of airborne emission within proximity of the 'O'oma Beachside Village site.

Pollutants that exist may be attributable to a variety of sources, including traffic traversing Queen Ka'ahumanu Highway; housing construction operations occurring south of the 'O'oma Beachside Village site, associated with development of The Shores at Kohanaiki; operation of the Keāhole Power Plant, mauka of the Kona International Airport at Keāhole and Queen Ka'ahumanu Highway and volcanic activity at Kīlauea, where plumes of volcanic pollution

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(vog) is brought to the Kona coast by northeasterly tradewinds. Emissions from these sources are intermittent and minimal and are quickly dispersed by prevailing tradewinds.

An air quality study is being prepared and findings will be included in the Draft EIS, along with a copy of the study. The Draft EIS will include discussion of cumulative impacts.

#### Potential Impacts and Mitigation Measures

Emissions derived from operation of construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality in the immediate vicinity. However, these effects will be minimized through proper maintenance of construction equipment and vehicles. In addition, there may be a temporary adverse impact on air quality attributable to dust generated during 'O'oma Beachside Village construction, particularly earthmoving activity, including excavating, trenching and filling. Proposed grading activities will occur in proximity to existing industrial businesses and major thoroughfares, posing potential impacts from dust.

It is anticipated that no State or Federal air quality standards will be violated during or after the creation of the 'O'oma Beachside Village. A dust control plan will be implemented during all phases of development. All construction activities will comply with the provisions of Chapter 11-60.1-33, HAR on fugitive dust. Measures to control dust during various phases of construction will include:

- Planning phases of construction to minimize the amount of dust-generating materials and activities, centralizing onsite vehicular traffic routes, and locating potential dust-generating equipment in areas of least impact;
- Providing an adequate water source at the site prior to start-up construction activities;
   Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
- Minimizing dust from shoulders and access roads;
- Providing adequate dust control measures during weekends, after hours and before daily start-up of construction activities; and
- Controlling dust from debris being hauled away from the Site.

In the long term, motor vehicle traffic on 'O'oma Beachside Village roadways may potentially cause long-term impacts on ambient air quality in the vicinity. Motor vehicles with gasoline-powered engines are significant sources of carbon monoxide that emit nitrogen oxides and other contaminants. However, federal air pollution control requirements regulate and restrict the emissions from vehicles; therefore additional traffic generated by 'O'oma Beachside Village is not expected to significantly impact the ambient air quality. A more detailed discussion of shortand long-term impacts to air quality will be addressed in the forthcoming Draft EIS.

#### 4.5 VISUAL RESOURCES

#### **Existing Conditions**

Hualālai defines the scenic resources east of the 'O'oma Beachside Village site. The Site does not lie within a scenic view corridor. Vast vacant and undeveloped open space comprises the view makai of the Site. Visible vegetation includes fountain grass, noni plants and maiapilo. The western portion of the Site consists of Wawaloli Beach, which is open to the public and a

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small anchialine pond area, mauka of the coastline vegetation. The ocean, beach, and anchialine pond area can only intermittently be seen from Queen Ka'ahumanu Highway. Figure 4 contains photographs of the site.

#### Potential Impacts and Mitigation Measures

'O'oma Beachside Village will be master planned to ensure the appropriate use of materials, colors, site design standards and landscaping. The 'O'oma Beachside Village will be in character with surrounding uses, north and south of the Site. The shoreline park will align with NELHA's shoreline park and archaeological preserve to the north and The Shores at Kohanaiki Shoreline Park to the south. While the design is conceptual at this time, building massing will allow for openings between structures for coastal views. Height limits will be in accordance with Hawai'i County Code requirements. Under the Code, all designs must undergo Plan Approval (except for Single-Family Residential homes) prior to commencement of construction.

Hualālai will still be visible east of the Site. Along the frontage of the Site, most of the coastline is not visible from Queen Ka'ahumanu Highway. Therefore, there will be no obstruction of views from the highway down to the ocean. A 150-foot landscape buffer will serve to mitigate visual impacts from Queen Ka'ahumanu Highway. In total, approximately 57 acres, exclusive of parks and trails, will be maintained as open space. Potential impact and mitigation will be further addressed in the Draft EIS.

#### 4.6 SOCIO-ECONOMIC CHARACTERISTICS

A market and economic impact study is currently being prepared for the 'O'oma Beachside Village. Conclusions of the report will be included in the Draft EIS and the complete report will be included as an appendix to the Draft EIS.

#### **Existing Conditions**

#### 4.6.1 Population and Housing

The 2000 Census reported the population of Hawai'i County at 148,677. According to the data for the Kalaoa Census Designated Place (CDP), which includes the 'O'oma Beachside Village site, the population for that region was 6,794. Table 2 shows a comparison of the population of Hawai'i County as a whole to the Kalaoa CDP.

In 2005, the County of Hawai'i population rose to 167,293, a 12.5 percent increase (DBEDT 2006). The population for the County is anticipated to increase to 176,750 persons by 2010, 203,050 persons by 2020 and 229,700 by 2030 (DBEDT 2004).

The median year-to-date single-family home sales price as of October 2006 has increased 11 percent from \$382,309 to \$425,000 at approximately the same time last year, the year-to-date sales were down 27 percent from 1,709 single-family home sales compared to 2,350 homes sold last year, according to the Hawai'i Information Service (Pacific Business News, November 2006).

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Table 2: Demographic Characteristics: 2000

Subject	Kalaoa CDP		Hawai'i County	
Subject	Number	Percent	Number	Percent
Total Population	6,794	100.00	148,677	100.00
AGE				
Under 5 years	430	6.3	9,130	6.1
5 – 19 years	1,874	27.6	33,690	22.7
20 – 64 years	4,313	63.5	85,738	57.6
65 years and over	607	8.9	20,119	13.5
Median Age (years)	38.8		38.6	
HOUSEHOLD (By type)				
Total Households	2,402	100.0	52,985	100.0
Family Households (families)	1,724	71.8	36,903	69.6
With own children under 18 years	831	34.6	17,072	32.2
Married-couple family	1,389	57.8	26,828	50.6
With own children under 18 years	622	25.9	11,302	21.3
Female householder, no husband present	234	9.7	7,000	13.2
With own children under 18 years	143	6.0	4,095	7.7
Non-families	678	28.2	16,082	30.4
Living alone	467	19.4	12,240	23.1
65 years and over	88	3.7	4,214	8.0
Average persons per household	2.83		2.75	
HOUSING OCCUPANCY AND TENURE				
Total Housing Units	2,541	100.0	62,674	100.0
Occupied units	2,402	94.5	52,985	84.5
By owner	1,611	67.1	34,175	64.5
By renter	791	32.9	18,810	35.5
Vacant units	139	5.5	9,689	15.5

Source: U.S. Census Bureau, Census 2000.

As of October 2006, year-to-date condominium sales were also higher than year-to-date sales at around the same time in 2005, but the number of sales was lower. While the sales price rose approximately 23 percent from \$374,000 to \$460,000, the amount of condominiums sold decreased by 37 percent from approximately 993 condominiums sold at around the same time in 2005 to 621 condominiums sold this year.

#### **4.6.2 Economy**

The local economy is dependent on the arts, entertainment, recreation, accommodation and food services industry, with approximately 842 persons or 21.9 percent employed in these industries in the CDP. Other prevalent industries, with approximately 10 percent of the working population employed by field include: construction, retail, transportation, warehousing, and utilities; professional, scientific, management, administrative and waste management services and the educational, health, and social services fields.

The Kalaoa CDP has a low number of families facing poverty. In 1999, 53 families or three (3) percent of the population were facing poverty.

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#### 4.6.3 Employment

As of October 2006, Hawai'i County's unemployment rate was 2.2 percent, compared to three (3) percent in 2005 (State of Hawai'i Department of Labor and Industrial Relations, 2006). In the Kalaoa CDP, approximately 3,846 persons ages 16 years and older were listed as employed. Approximately 25 percent of the population was employed in the management, professional or related occupations, 25 percent in service occupations and 25 percent in sales and office occupations. The remaining 25 percent were employed in the farming, fishing and forestry occupations, construction industry or production, transportation and material moving occupations.

#### Potential Impacts and Mitigation Measures

A market study and economic impact analysis is being prepared by the Mikiko Corporation and findings will be included in the Draft EIS, along with a copy of the study. The 'O'oma Beachside Village will supply approximately 950 to 1,200 homes. The Draft EIS will include additional information regarding projected population and discuss potential impacts and mitigation measures. The proposed 'O'oma Beachside Village will help address housing need for island residents. The market study will address housing demand and supply factors, which may be influenced by the 'O'oma Beachside Village. Creation of the proposed master-planned community will result in job creation, associated with subdivision improvements and home construction. It will also generate revenue associated with property taxes and business operations. The economic impact analysis will address the impact of the proposed 'O'oma Beachside Village to the local economy.

#### 4.7 INFRASTRUCTURE AND UTILITIES

M&E Pacific is preparing a preliminary engineering report for the 'O'oma Beachside Village. Conclusions and recommendations of the report will be included in the Draft EIS. The report will be attached as an appendix to the Draft EIS.

#### 4.7.1 ROADWAYS AND TRAFFIC

#### **Existing Conditions**

Queen Ka'ahumanu Highway is a State arterial highway facility that borders the site to the east and is currently being expanded to a four (4) lane facility in two phases. Phase I of the expansion, which will involve road widening from Henry Street to Kealakehe Parkway, is currently underway and is anticipated to be completed by April 2007. Phase II of the expansion, which will involve road widening of the area from Kealakehe Parkway to Keāhole Airport, will soon be open to bid by contractors.

Currently, there is a permitted highway access opening near the southeast corner of the 'O'oma Beachside Village site. Additional access is possible via the NELHA access road, which connects to a coastal jeep trail that extends north-south along the western portion of the Site, near the shoreline.

A Traffic Impact Assessment Report (TIAR) will be prepared by M&E Pacific. The TIAR will include an analysis of traffic counts for existing, ambient, and future conditions associated with

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'O'oma Beachside Village build-out. Level of Service (LOS), circulation patterns and mitigation measures will be addressed in the TIAR.

#### Potential Impacts and Mitigation Measures

Access to 'O'oma Beachside Village is proposed to be available via two access routes: 1) the primary entrance would be off Queen Ka'ahumanu Highway, through the southeast corner of Parcel 22; and 2) the secondary access route would be via a collector road that runs north-south from HOST, east of Māmalahoa Trail.

To provide additional secondary access in the future, there will also be two potential access openings: 1) one to enable possible future connection through HOST to the Kona International Airport at Keāhole to the north; and 2) one at the southwestern portion of Parcel 22 to enable future between O'oma Beachside Village and The Shores at Kohanaiki.

As previously stated, there is an existing permitted access from Queen Ka'ahumanu Highway, at the southeast corner of Parcel 22. As shown on the Conceptual Master Plan, this access is proposed to be relocated approximately 400 feet north. The applicant will work with the County and State to establish the basis of design for access to 'O'oma Beachside Village. The entire area will be served by a collector road that will loop around the Site to serve the proposed land uses.

As previously mentioned, a TIAR is being prepared and findings will be included in the Draft EIS, along with a copy of the study. The TIAR will include an analysis of existing traffic conditions and will also account for base year traffic projections without project-generated traffic, trip generation and traffic assignment characteristics, determination of the potential impact of project-generated traffic on the base year for each development phase, and recommendations of mitigation measures to reduce or eliminate adverse impacts resulting from traffic generated. Cumulative traffic impacts associated with the creation of the proposed 'O'oma Beachside Village will be addressed in the Draft EIS.

#### 4.7.2 Water System

#### **Existing Conditions**

Currently, the Hawai'i County Department of Water Supply's (DWS) North Kona Water System provides the region's potable water and is integrated with sources south of Hinalani, down to the intersection of Māmalahoa Highway and Queen Ka'ahumanu Highway. The system extends from the Kona International Airport at Keāhole in the north to Kealakekua to the south. An existing 12-inch transmission main runs along Queen Ka'ahumanu Highway and connects to two storage tanks above the airport, Keāhole Tank and Keāhole No. 1 tank. Another 12" transmission main then runs south along the portion of Queen Ka'ahumau Highway fronting the airport, terminating in a 12-inch by 12-inch tee at NELHA for future connection to 'O'oma Beachside Village and lands further south, should there be available water.

#### Potential Impacts and Mitigation Measures

North Kona Village, LLC will coordinate with the DWS to ensure that water storage and source is available at the time of development. Demand and preliminary water engineering will be

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discussed in the Draft EIS. A copy of the preliminary engineering report will be attached as an appendix to the Draft EIS.

#### 4.7.3 Wastewater System

#### **Existing Conditions**

Wastewater from the Kona region is treated and disposed of by individual wastewater systems, private treatment facilities, as well as the County's Kealakehe Waste Water Treatment Plant. Many of the single-family residential lots and public parks in the region are still connected to septic systems. For smaller facilities, systems consist of a septic tank and disposal through leaching.

Treatment facilities in close proximity to the 'O'oma Beachside Village site are located at Keauhou, Kealakehe, and the Kona International Airport at Keāhole. Limited capacity is available at each wastewater treatment facility; however, according to the *County Environmental Report in Support of Applications for a Project District and Special Management Area Use Permit* (Helber, Hastert & Fee, 2003) much of this capacity has been reserved for future development.

In 2001, the County of Hawai'i passed Resolution 70-01, which allowed the extension of the municipal sewer system from the existing Kealakehe Wastewater Treatment Plant, north along Queen Ka'ahumanu Highway to Kohanaiki.

#### Potential Impacts and Mitigation Measures

North Kona Village, LLC is exploring coordination with other landowners on shared use of offsite treatment facilities, joint development of an offsite treatment facility, or possible development of an onsite one mgd wastewater treatment plant. If North Kona Village, LLC opts to develop a wastewater treatment plant at the 'O'oma Beachside Village site, design and construction will be in accordance with State Department of Health and County of Hawai'i standards and treated water would be reused for irrigation. M&E Pacific is preparing a preliminary engineering report that will include further discussion on the wastewater collection and treatment required for 'O'oma Beachside Village. Conclusions from the report will be included in the Draft EIS, which will also contain a copy of the report attached as an appendix.

#### 4.7.4 Drainage System

#### **Existing Conditions**

Runoff from Hualālai sheet flows and is conveyed via gullies that run east to west (mauka to makai) near the 'O'oma Beachside Village site. Similarly, runoff from the undeveloped Site sheet flows east to west (mauka to makai) and is conveyed by gullies, discharging into the low lands near the shoreline.

Storm water mauka of Queen Ka'ahumanu Highway flows down toward the highway, where it is cut off and diverted to a series of culverts running below the highway. Near the 'O'oma Beachside Village site, there are two highway culverts, one a 30-inch corrugated metal pipe, located approximately 1,000 feet north of the site, near the airport and the other, a 14 foot, 10-

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inch by 9 feet, one inch culvert located approximately 1,000 feet south of the existing jeep access road that intersects the highway near the Site's southern boundary. Runoff from the southern culvert drains south of the Site. A more detailed discussion of drainage infrastructure will be included in the Draft EIS.

#### Potential Impacts and Mitigation Measures

Offsite runoff will continue to flow east to west (mauka to makai). The proposed 'O'oma Beachside Village will maintain the original drainage flow pattern.

Creation of the 'O'oma Beachside Village will result in increased impervious surfaces, such as roads and homes that will result in an increase of runoff generated. Currently, runoff is planned to be collected by a drywell/drain inlet system with detention basins, as determined during the design phase. Any increase in runoff will be retained onsite and design and construction of the drainage system will be in accordance with existing requirements of the County of Hawai'i Storm Drainage Standards and the Standard Details and Specifications for Public Works Construction. A detailed discussion of drainage flows and proposed mitigation measures will be included in the Draft EIS, along with a copy of the preliminary engineering report.

#### 4.7.5 Electrical and Communications Systems

#### **Existing Conditions**

Electrical, telephone and cable service for the region is provided by Hawai'i Electric Light Company, Inc. (HELCO), Hawaiian Telcom, and Oceanic/Time-Warner Cable, respectively. The nearest power sources are a 69 kV overhead transmission line mauka of Queen Ka'ahumanu Highway and a substation that serves NELHA (Helber, Hastert & Fee, 2003). Mauka of Kona International Airport and Queen Ka'ahumanu Highway is the Keāhole Power Plant, the largest power producer on the Island, generating up to 75 percent of the power needed by West Hawai'i, and 35 percent of the electricity for the entire island. As far as telephone service, there are fiber optic lines on the electrical pole line mauka of the highway and there is a small equipment hut serving a small agricultural subdivision north of the 'O'oma Beachside Village site. The nearest source of cable television service is the fiber optic lines also on the 69 kV pole mauka of the highway (Helber, Hastert & Fee, 2003). Additional details of the electrical and communication systems will be described in the Draft EIS.

#### Potential Impacts and Mitigation Measures

Coordination with the various utility companies will be undertaken for preparation of the Draft EIS, which will include a discussion of estimated electrical demand as well as potential impacts and mitigation measures.

Energy conservation measures will be implemented where possible in the design of 'O'oma Beachside Village. Energy-saving technologies to be considered for incorporation include:

- Solar energy for water heating;
- Maximum use of day lighting;
- Installation of high efficiency compact fluorescent lighting;
- Roof and wall insulation, radiant barriers and energy efficient windows;
- Installation of light colored roofing;

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- Utilization of landscaping for shading of buildings;
- Use of photovoltaics, fuel cells and other renewable energy sources; and
- Installation of "district cooling" system, which utilizes cold sea water as a chilling agent for air conditions systems. NELHA currently utilizes such technology, which requires less maintenance than compressor systems, resulting in energy cost savings, fresh water conservation and fuel conservation needed for electricity production.

#### 4.7.6 Solid Waste

#### **Existing Conditions**

Currently, the County of Hawai'i does not provide solid waste collection service to the North Kona region. Area residents either dispose of their own refuse or hire a private collector to haul it to one of many transfer stations on the island, which in turn is delivered to one of two landfills, the South Hilo Landfill or the Pu'uanahulu Landfill.

According to the *Update to the Integrated Solid Waste Management Plan for the County of Hawai'i*, in 2002, the total amount of solid waste managed by the county system was approximately 160,000 tons (Harding ESE, 2002). The South Hilo Landfill is rapidly filling up and will have to close within the next two to five years (Geometrician Associates, 2006). The estimated lifespan of the Pu'uanahulu Landfill, with a 15 percent diversion rate and receipt of only West Hawai'i waste, is until the year 2049. If the Pu'uanahulu Landfill receives all of the County's waste, and if planned recycling and resource recovery efforts progress (potentially increasing the diversion rate to 45 percent), then the Pu'uanahulu Landfill has capacity until the year 2045. Additionally, the proposed waste reduction technology in East Hawai'i could potentially expand the Pu'uanahulu Landfill beyond the year 2049 (County of Hawai'i, 2004).

#### **Potential Impacts and Mitigation Measures**

The Draft EIS will include more information on solid waste disposal facilities, and the impact of the 'O'oma Beachside Village on landfill capacity and future solid waste solutions being pursued by the County.

A solid waste management plan for reduction of solid waste disposal will be prepared in accordance with County standards. Waste generated by site preparation will primarily consist of debris associated with the removal of lava rock and shrub vegetation onsite. Where possible, green waste from grubbing will either be chipped into mulch for use onsite or recycled, thereby minimizing the amount of solid waste generated. It will be recommended to contractors that a job-site recycling plan should be developed. Construction waste that cannot be recycled will be disposed of in the County's landfill.

After construction, recycling will be encouraged. Recycling provisions, such as collection systems and space for bins, may be incorporated in to 'O'oma Beachside Village. 'O'oma Beachside Village will most likely be serviced by a private refuse collection agency, possibly contracted by a Homeowner's Association(s). Waste that cannot be recycled will be disposed of at the County Landfill.

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#### 4.8 PUBLIC SERVICES AND FACILITIES

#### 4.8.1 Police, Fire and Medical Services

#### **Existing Conditions**

The County of Hawai'i Police Department's Kealakehe Station is located just mauka of Queen Ka'ahumanu Highway, approximately two (2.0) miles south of the 'O'oma Beachside Village site. The station provides service to the North and South Kona Districts. There are also substations in Keauhou and Captain Cook for officers from the Kona Station working in those areas (Helber, Hastert & Fee, 2003).

Fire prevention, suppression and protection services for the region are provided by the Kailua-Kona Fire Station, approximately four (4.0) miles south of the 'O'oma Beachside Village site, near the intersection of Palani Avenue and Queen Ka'ahumanu Highway. The station, which serves areas within a 30-mile radius, from Keauhou to the Kona Village Resort, is equipped with a ladder truck, tanker, rescue boat and Emergency Medical Service ambulance. Back-up support to the station is provided by a volunteer-operated fire station located along Māmalahoa Highway. Other fire stations are located in Keauhou, Waikoloa and South Kohala (Helber, Hastert & Fee, 2003).

The health care facility nearest the Site is Kona Community Hospital, located on Haukapila Street in Kealakekua, approximately 17.0 miles southeast of the 'O'oma Beachside Village site. The 94-bed facility provides acute and long-term care services (Hawai'i Health Systems Corporation, 2006). Other private medical and dental service providers, which have regular business hours, are located in the Kona region, including a Kaiser Permanente Clinic.

#### Potential Impacts and Mitigation Measures

The 'O'oma Beachside Village should not require an extension of the existing service area for emergency services. There may be a need for additional personnel; however, additional revenues will be generated through property taxes, which will support the County and State and their respective departments. Coordination will be undertaken with appropriate agencies to address service capabilities of police, fire, and emergency medical operations.

#### 4.8.2 Recreational Facilities

#### **Existing Conditions**

Numerous recreational parks and facilities are located in close proximity to the 'O'oma Beachside Village site. Bordering the Site to the west is Wawaloli Beach Park, operated by NELHA and HOST. The white sand beach has a children's swimming area, consisting of a large tide pool surrounded by a lava rock wall, which serves to break waves during high tide. It also has picnic tables, barbecue pits, showers and other public facilities. On-shore pole fishing is possible along the southern shore, amidst the cliffs. Along the shoreline, there is an existing dirt trail with access to many small tide pools.

The Kaloko-Honokōhau National Historical Park, a 1,160-acre national historical landmark, is located approximately 0.5 miles south of the Site. The park consists of extensive natural and

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cultural resources, including archaeological sites, wetlands and fishponds (Helber, Hastert & Fee, 2003).

In the Kohanaiki area, near the shore, are four open camp ground areas, a popular surf spot, known as "Pine Trees," a trail with benches and vista points, and a trail that will connect to the 175-mile Ala Kahakai National Historic Trail, a corridor which traverses through numerous ancient Hawaiian settlement sites and ahupua'a.

Approximately three miles south of the 'O'oma Beachside Village site is the Old Kona Airport State Park, which has a gymnasium with a full-sized basketball court, five baseball fields, two soccer fields, two football fields and four tennis courts. Other parks include Kealakekua Bay Historic Park, Kekaha Kai State Park, Keolonāhihi State Historic Park and Nāpo'opo'o Beach Park. Approximately 1.5 miles south of the Site is the Honokōhau Small Boat Harbor, which can accommodate commercial and recreational vessels (Helber, Hastert & Fee, 2003).

County parks include Disappearing (White) Sands Beach Park, Hoʻokena Beach Park, Kahaluʻu Beach Park, Manini Point (Nāpoʻopoʻo), Miloliʻi Beach Park and Pāhoehoe Beach Park. The Kona Aquatic Center has facilities for lap swimming and water activity area for young children (Helber, Hastert & Fee, 2003).

#### Potential Impacts and Mitigation Measures

'O'oma Beachside Village will consist of approximately 104 acres of parks and open space. Near the shore, there will be approximately 75 acres of parks and open space consisting of approximately 57 acres of open space, an 18 acre shoreline park (will connect to The Shores at Kohanaiki shoreline park), and a public canoe club. There will also be an approximately eight (8) acre active community park and various smaller neighborhood parks, totaling four (4) acres. Queen Ka'ahumanu Highway and the historic Māmalahoa Trail will be maintained with landscape buffers. The open space trails would be able to connect to the Ala Kahakai Trail in the future, if so desired. A multi-modal trail system/bike pathways and roadways will loop throughout the Site, providing residents with easy access to the beach and the ability to bike, walk, hike or run throughout 'O'oma Beachside Village. North Kona Village, LLC will coordinate with the Department of Parks and Recreation to ensure that community park requirements are satisfied.

#### 4.8.3 Schools

#### **Existing Conditions**

Presently, the State of Hawai'i Department of Education operates five (5) public schools in the Kealakehe Complex of the Honoka'a-Kealakehe-Kohala-Konawaena Complex Area. They are: Kealakehe High School (grades 9-12), Kealakehe Intermediate School (grades 6-8) and Kealakehe Elementary School (grades K-5), Kahakai Elementary School (grades K-5) and Hōlualoa Elementary School (grades K-5). Table 3 contains current and projected school enrollment information.

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**Table 3: Capacity And Enrollment For Public Schools** 

Kealakehe Complex					
School	Capacity for 2005- 2006 School Year	Enrollment in 2005-2006 School Year	Projected Enrollment 2011-2012		
Kealakehe High School	1,480	1,530	1,395		
(Grades 9-12) Kealakehe Intermediate School	1,055	965	874		
(Grades 6-8)	1,055	903	074		
Kealakehe Elementary School (Grades K-5)	983	960	1,118		
Kahakai Elementary School	819	618	703		
(Grades K-5) Hōlualoa Elementary School	473	448	623		
(Grades K-5)	413	440	023		
Source: State of Hawai'i Department of Education, 2006.					

There are also three public charter schools in the region: Innovations Public Charter School (PCS) (grades 1-6) located on Queen Ka'ahumanu Highway in Kailua, Kanu o ka 'Āina New Century Public Charter School (NCPCS) (grades K-12), which operates out of the Lālāmilo Experiment Station in Waimea and West Hawai'i Explorations Academy Public Charter School (grades 7-12) operating at NELHA.

Innovations PCS, which has an open admissions policy, integrates multi-age groupings, project-based focus and technology into its curriculum. The school has a capacity for 120 students. For the 2006-2007 school year more than 150 students applied, and approximately 242 students are on the wait list (Innovations Public Charter School, 2006).

Kanu o ka 'Āina NCPCS, which has an open admissions policy, integrates native Hawaiian culture project-based learning and technology into its curriculum. Students have access to outdoor learning laboratories in Kawaihae, Pu'upulehu, Kukui and Waipi'o Valley. The school has a capacity for 150 students but may be able to accommodate up to 250 students upon permanent site relocation (Kanu o ka 'Āina Learning 'Ohana, 2006).

The West Hawai'i Explorations Academy PCS, which has an open admissions policy, integrates inquiry-based, problem-solving and project-based learning, for students interested in marine and environmental science. Grades 7 and 8 currently have a capacity for 25 students per grade level. Grades 9 to 12 can accommodate 15 students per grade level (West Hawai'i Explorations Academy, a Public Charter School, 2006).

#### Potential Impacts and Mitigation Measures

North Kona Village, LLC has met with State Department of Education representatives to discuss the "fair-share" educational assessment for the 'O'oma Beachside Village and will continue to coordinate to ensure that requirements are met.

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## 5.0 LAND USE CONFORMANCE

The processing of various permits and approvals are prerequisites to the implementation of the 'O'oma Beachside Village Master Plan. Relevant State of Hawai'i and Hawai'i County land use plans, policies, and ordinances are described below.

#### 5.1 STATE OF HAWAI'I

#### 5.1.1 Chapter 343, Hawai'i Revised Statutes

Compliance with Chapter 343, HRS is required as described in Section 1.6.

#### 5.1.2 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission and authorizes this body to designate all lands in the State into one of four (4) Districts: "Urban," "Rural," "Agricultural," or "Conservation."

Parcel 4, comprising approximately 217.566 acres lies entirely within the "Conservation" District (Figure 9). A SLUDBA will be required to reclassify approximately 181.169 acres of Parcel 4 from the "Conservation" District to the "Urban" District (Figure 10). Approximately 38.211 acres of Parcel 4, located near the shoreline and that includes the majority of the archaeological and cultural features on the Site, will remain in the "Conservation" District.

The State ROW, comprising approximately 1.814 acres, is within the "Conservation" District (Figure 9) and will be included for reclassification to "Urban" in the SLUDBA (Figure 10).

Parcel 22, which comprises 83 acres, is entirely within the "Urban" District (Figure 9) and will remain in the "Urban" District (Figure 10).

#### 5.1.3 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

The Coastal Zone Management Area as defined in Chapter 205A, HRS, includes all the lands of the State. As such, the proposed 'O'oma Beachside Village lies within the Coastal Zone Management Area. The County's SMA extends from Queen Ka'ahumanu Highway in the makai/west direction through the 'O'oma Beachside Village site and to the shoreline.

The Draft EIS will include the relevant objectives and policies of the Hawai'i Coastal Zone Management (CZM) Program pertaining to the proposed 'O'oma Beachside Village along with a more detailed discussion of how the 'O'oma Beachside Village will coincide with these objectives and policies.

#### 5.1.4 Hawai'i State Plan, Chapter 226, Hawai'i Revised Statues

The Hawai'i State Plan (Chapter 226, HRS) establishes a set of goals, objectives and policies that serve as long-range guidelines for the growth and development of the State. The sections of the State Plan directly applicable to 'O'oma Beachside Village, along with a discussion of how the 'O'oma Beachside Village conforms to the State Plan, will be included in the Draft EIS.

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#### 5.1.5 State Functional Plans

The Hawai'i State Plan directs State agencies to prepare functional plans for their respective program areas. There are 14 State Functional Plans that serve as the primary implementing vehicle for the goals, objectives, and policies of the Hawai'i State Plan. The functional plans applicable to the proposed 'O'oma Beachside Village, along with each plan's applicable objectives, policies, and actions will be discussed in the Draft EIS.

#### 5.2 COUNTY OF HAWAI'I

#### 5.2.1 County of Hawai'i General Plan

The County of Hawai'i General Plan is a policy document that is intended to help guide development for the enhancement and improvement of life on Hawai'i Island. The document advances the County's vision for Hawai'i Island through the establishment of strategies to help achieve that vision.

According to the *County of Hawai'i General Plan* (February 2005), a portion of Parcel 4 is designated as "Open Space" and a portion is "Urban Expansion" (Figure 11). The shoreline park, coastal (archaeological) preserve, greenway trails and landscape buffers proposed on Parcel 4 are consistent and compatible with the "Open Space" designation. Parcel 22 is designated as "Urban Expansion," with a narrow strip of "Open Space" bordering the east end of the parcel along Queen Ka'ahumanu Highway. The State ROW is designated "Urban Expansion." The land uses proposed in the Conceptual Master Plan are consistent with the "Urban Expansion" designation and "Open Space" designation along the highway. Goals, objectives, and policies from the General Plan relevant to the proposed 'O'oma Beachside Village will be discussed in the Draft EIS.

#### 5.2.2 County of Hawai'i Zoning

Similar to the State Land Use Districts, the Hawai'i County Code (County Code) regulates the type and location of development permitted on the island. County Code designations are more specific in terms of describing permitted land uses. For example, there are residential, resort, agricultural, commercial, industrial, open, planned unit development, cluster plan development, 'ohana dwellings, project districts, agricultural project districts, and special districts, many of which have subcategories based on a variety of development standards such as permitted lot size or structures.

The existing Hawai'i County zoning for Parcels 4 and the State ROW is "O, Open" (Figure 12). Open zone applies to areas that contribute to the general welfare, the full enjoyment or economic well-being of open land type use which has been established, or is proposed. The object of the Open zone is to encourage development around it such as a golf course and park, and to protect investments which have been or shall be made in reliance upon the retention of such open type use, to buffer an otherwise incompatible land use or district, to preserve a valuable scenic vista or an area of special historical significance, or to protect and preserve submerged land, fishing ponds, and lakes (natural or artificial tide lands).

The Hawai'i County zoning for Parcel 22 is "MG-3a, General Industrial" (Figure 12). The MG, General Industrial zone applies to area for uses that are generally considered to be offensive or



# Legend

'O'oma Beachside Village

## **State Land Use District**

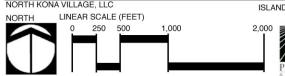
Conservation Urban

Source: State Land Use Commission 2006

Disclaimer: This graphic has been prepared for general planning purposes only.

# FIGURE 9 State Land Use District

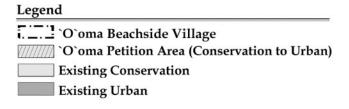
# 'O'oma Beachside Village NORTH KONA VILLAGE, LLC ISLAND OF HAWAI'I





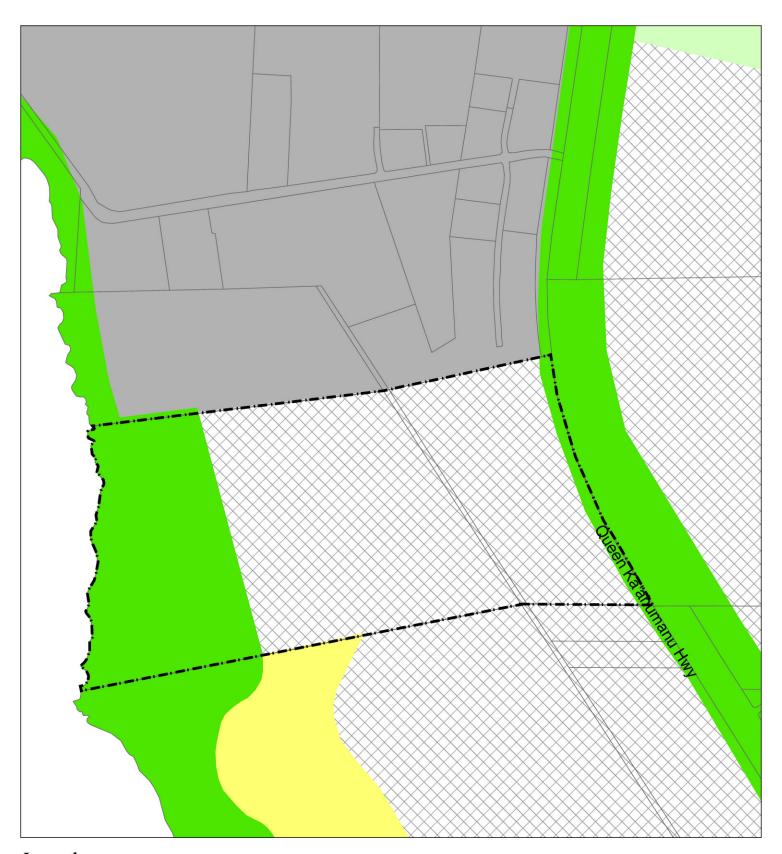
4/12/2007

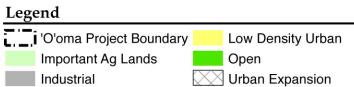




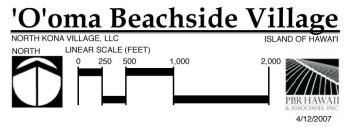
# **FIGURE 10** Petition Area

# O'oma Beachside Village NORTH KONA VILLAGE, LLC NORTH LINEAR SCALE (FEET) 0 250 500 1,000 2,000

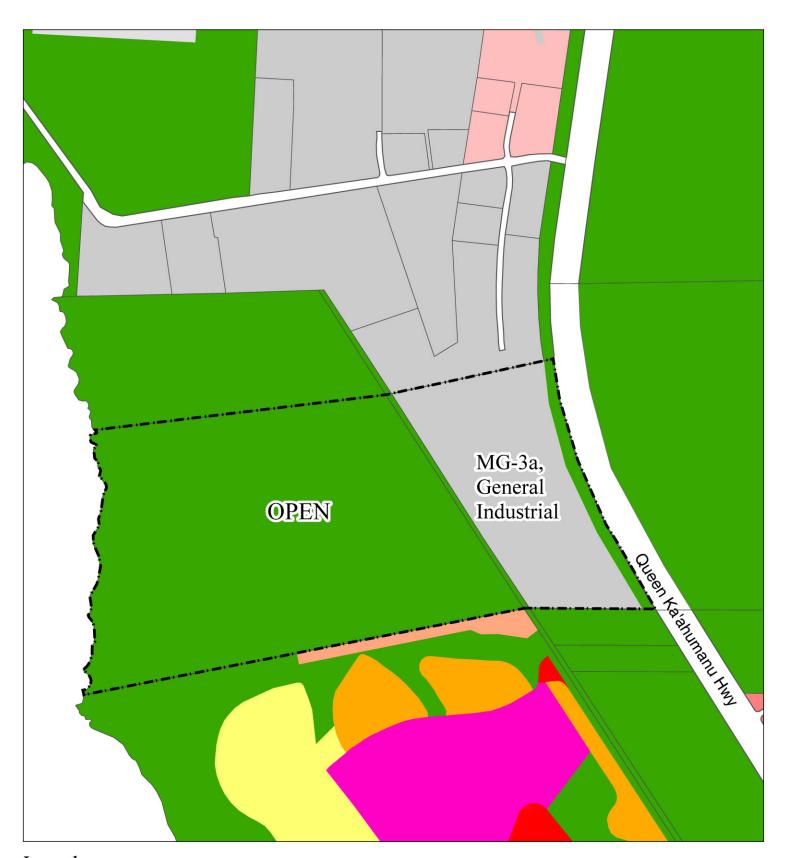




# FIGURE 11 County of Hawai'i General Plan 2005



County of Hawai'i 2005 General Plan Land Use Pattern Allocation Guide Map Updated in 2006 Disclaimer: This graphic has been prepared for general planning purposes only.





Source: County of Hawai'i Zoning GIS 2007

# 1,000

LINEAR SCALE (FEET)

County of Hawai'i Zoning

FIGURE 12

'O'oma Beachside Village
NORTH KONA VILLAGE, LLC ISLAND OF HAWAI'I

4/12/2007

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have some element of danger. noxious, making it necessary to separate these uses from residential and other incompatible uses. Minimum lot size is three acres in the MG-3a zone.

The land uses proposed for Parcels 4, 22 and the State ROW of the Conceptual Master Plan are not consistent with the permitted uses of the "O, Open" and "MG-3a, General Industrial" designations. Therefore, subsequent to the SLUDBA process, a Change of Zone request will be submitted to the County of Hawai'i Planning Department to change the existing zoning to "PD, Project District." Project Districts are intended to provide for a flexible planning approach. Permitted uses generally include those permitted in the "RS, Single-Family Residential Districts," "RD, Double-Family Residential Districts," "RM, Multiple-Family Residential Districts," "CN, Neighborhood Commercial Districts," "CG, General Commercial Districts," "CV, Village Commercial Districts" or "V, Resort-Hotel Districts."

#### **5.2.3** Special Management Area

The 'O'oma Beachside Village site is located within the Special Management Area (SMA) (Figure 13). The SMA is the area extending inland from the shoreline that has been designated for special protection to help preserve coastal resources. The County must approve any development within the SMA and issue a permit depending upon the type of development. The 'O'oma Beachside Village will occur inside of the SMA and thus, will require a SMA Use Permit. Concurrent with, and subsequent to, the Change of Zone process, North Kona Village, LLC will submit a SMA Use Permit application to the County of Hawai'i Planning Department.

#### 5.3 APPROVALS AND PERMITS

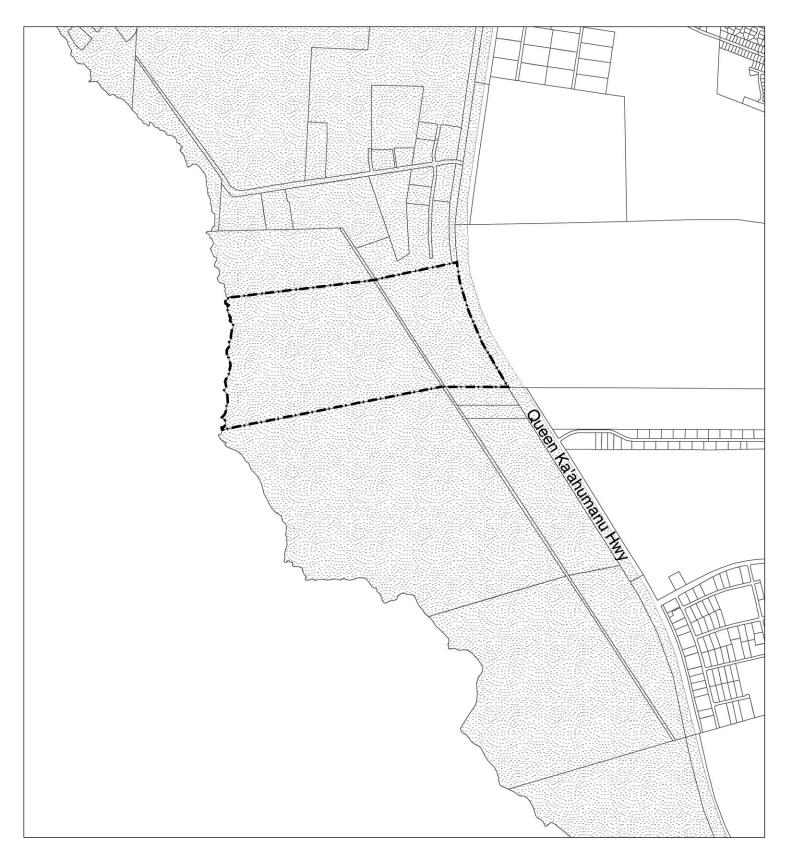
A listing of anticipated permits and approvals required for 'O'oma Beachside Village is presented below:

**Table 4: List of Anticipated Permits and Approvals** 

Permit/Approval	Responsible Agency
State Land Use District Boundary Amendment	State Land Use Commission
Change of Zone Request	County Planning Department/County Council
Special Management Area Use Permit (Major)	County Planning Department/Planning Commission
Subdivision Approval	County Planning Department
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Plan Approval	County Planning Department
Grading/Building Permits	County Department of Public Works
Approval for Wastewater Treatment Facility	State Department of Health
Permit to Perform Work within a State Right-of-Way	State Department of Transportation
Purchase of State ROW	Board of Land & Natural Resources

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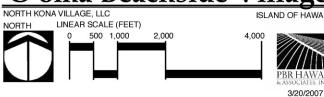
# Legend

'O'oma Beachside Village

Special Management Area

# FIGURE 13 Special Management Area

# 'O'oma Beachside Village



Source: SMA County of Hawai'i GIS 2006

Disclaimer: This graphic has been prepared for general planning purposes only.

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## 6.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of HAR Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), the Draft EIS will include a discussion of the alternatives to the use of the site for the proposed 'O'oma Beachside Village. The possible alternatives to the proposed plan, including the "No-Action" alternative, will be investigated to identify other potential land uses which might be appropriate on the Site relative to existing environmental and social/economic conditions.

#### 6.1 NO ACTION ALTERNATIVE

Under the No Action alternative, the Site would remain in its current state. This alternative would not be consistent with the *County of Hawai'i General Plan* (February 2005), which designates a large portion of the Site for Urban Expansion, nor would it improve the current housing market. The proposed 'O'oma Beachside Village will be a beachside community with housing for local residents. There will be market priced homes and affordable homes that will contribute to the local economy through expenditures associated with construction and subsequently through the generation of property taxes. There could also be a potential generation of job opportunities associated with construction activity.

In addition to providing housing, the 'O'oma Beachside Village will accommodate commercial opportunities that will contribute to the local economy and will alleviate residents' travel time associated with travel to Kailua-Kona for goods and services.

#### 6.2 ADDITIONAL ALTERNATIVES

North Kona Village, LLC considered other site development and infrastructure alternatives prior to arriving at the current Conceptual Master Plan. The Draft EIS will contain a discussion of the alternatives considered during 'O'oma Beachside Village planning.

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### 7.0 FINDINGS AND DETERMINATION

#### 7.1 SIGNIFICANCE CRITERIA

While this EISPN is preliminary to the Draft EIS, the currently known information presented here has been evaluated according to the significance criteria as set forth in HAR Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 200. As a result of this preliminary information it is anticipated that the proposed master-planned community:

- (1) Is not likely to involve an irrevocable commitment to loss or destruction of any natural or cultural resources;
- (2) Will increase the range of beneficial uses of the environment;
- (3) Will not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;
- (4) May substantially and positively affect the economic or social welfare of the community or state:
- (5) Will not substantially affect public health;
- (6) Will involve secondary impacts, such as population changes or effects on public facilities;
- (7) Is not likely to involve a substantial degradation of environmental quality;
- (8) Is individually limited but cumulatively may have a considerable effect upon the environment or involves a commitment for larger actions;
- (9) Is not anticipated to substantially affect a rare, threatened, or endangered species, or its habitat:
- (10) Will not detrimentally affect air or water quality or ambient noise levels;
- (11) Will not affect, or be likely to suffer damage by being located within an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
- (12) Will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies; or
- (13) Will result in additional energy consumption.

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#### 7.2 DETERMINATION

In accordance with Chapter 343, HRS and Title 11, Chapter 200, HAR (Environmental Impact Statement Rules), this EISPN for the proposed 'O'oma Beachside Village has been prepared to address triggers for Environmental Assessments/Environmental Impact Statements which include, without limitation, the following:

- Reclassification of approximately 181.169 acres from the State Land Use Conservation District to the State Land Use Urban District;
- Proposed highway intersection improvements on Queen Ka'ahumanu Highway (a State highway facility);
- Crossings of the Māmalahoa Trail located within portions of the State ROW and Parcel 22;
- Possible purchase of the 1.814-acre State ROW;
- Possible development of a wastewater treatment plant; and
- Possible work within the shoreline setback area.

North Kona Village, LLC (the applicant) wishes to provide a thorough environmental review of the 'O'oma Beachside Village. Therefore, the preparation of an Environmental Impact Statement (EIS) is being undertaken rather than a less intensive Environmental Assessment (EA).

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#### 8.0 CONSULTATION

#### 8.1 PRE-ASSESSMENT CONSULTATION

In the course of planning for 'O'oma Beachside Village, the following agencies or individuals were consulted and/or provided information and comments:

#### **Federal**

- Federal Emergency Management Agency
- Natural Resources Conservation Service
- U.S. Geological Survey

#### State of Hawai'i

- Department of Agriculture
- Department of Business Economic Development & Tourism (DBEDT)
  - o Land Use Commission
  - Office of Planning
- Department of Transportation
- Land Study Bureau

#### Hawai'i County

- Brad Kurokawa, Deputy Planning Director
- Department of Environmental Management
  - Wastewater Division
- Department of Public Works
- Department of Water Supply
- Mayor Harry Kim
- Planning Department
- Roy Takemoto, Special Projects Office of the Mayor

#### Other

Jeff Nichols, NELHA

#### 8.2 EIS CONSULTATION

The EISPN will be distributed to the following individuals and organizations. Comment letters received for the EISPN will be included in the Draft EIS.

#### **Federal**

- U.S. Army Corp. of Engineers Division
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Department of Defense, U.S. National Guard
- U.S. Department of the Interior, Fish and Wildlife Service

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#### State of Hawai'i

- Department of Agriculture
- Department of Business Economic Development & Tourism (DBEDT)
- DBEDT Office of Planning
- DBEDT Energy, Resources & Technology Division
- Department of Education
- Department of Hawaiian Home Lands
- Department of Health (DOH)
- DOH Office of Environmental Quality Control
- Department of Land and Natural Resources (DLNR) Land Division
- DLNR Historic Preservation Division
- Department of Transportation
  - o Airports Division
  - o Highways Division
- Office of Hawaiian Affairs
- University of Hawai'i at Mānoa (UHM) Environmental Center

#### County of Hawai'i

- Civil Defense
- Department of Environmental Management
- Department of Parks and Recreation
- Department of Public Works
- Department of Water Supply
- Fire Department
- Mass Transit Agency
- Mayor Harry Kim
- Planning Department
- Police Department

#### **Utilities**

- Hawaii Electric Light Company (HELCO)
- Hawaiian Telcom
- Oceanic/Time Warner Cable

#### Other Agencies, Consultants, Associations and Individuals

- Cyanotech Corporation
- Hawaii County Council
- Hawaii Leeward Planning Conference
- Keāhole Point Association
- NELHA
- The Shores at Kohanaiki

#### Other

• Kona-Kohala Chamber of Commerce

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